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EDUCATIONAL REVIEW

FEBRUARY, 1919

I

THE RECONSTRUCTION OF EDUCATION UPON A SOCIAL BASIS

The end of the war may see only the beginning rather than the end of the troubles of our civilization. The most difficult adjustments remain to be made—readjustments in every department of social life, political, economic, moral, and educational. Social reconstruction is not the idle wish of a few visionaries. It is an imperative need forced upon us, both by the relative failure of our civilization, and by the destructive power of the war itself. We have not merely to rid ourselves of certain ways of thinking and living which have brought disaster upon us, but we have burdens put upon us by the calamity of the war, which will require our whole strength to carry.

In the material life alone these burdens are staggering. The war debts of the belligerent nations at the end of the fourth year of the war aggregated the enormous sum of $129,000,000,000, an amount six times greater than the total public debt of the civilized world prior to the war and equal to one-fourth of the combined wealth of the belligerent nations. Even with the war now ended, it is estimated that the annual interest charges on war debts of the world will amount to $10,000,000,000—a sum considerably larger than was spent yearly prior to the war by all the belligerent nations combined for public purposes. If we add to this the loss of life and the destruction of property occasioned by the war, we will perhaps get some

idea of the burdens in the material realm alone which must be assumed by us who live after and by our children and our children's children.

It has been well said that we can carry this burden and the other social burdens which necessarily go with it, only on one condition; and that is, that we all stand together, shoulder to shoulder; that we are united and not divided; that we think alike and work together harmoniously at the essential tasks of life. The problems of social, national and human unity have accordingly suddenly assumed new importance. We see that we must achieve national unity and some degree of international unity if we are to carry our burden successfully. Political, industrial, and social solidarity must replace the régime of individualism and class war. But these can not be achieved without social education; for, in a broad sense, education is the only means by which we can control the formation of habit and character in the individual, and so give him those social attitudes which will favor the development of social and national unity. For science substantially agrees with a recent popular writer[1] when he declares, "The development of education and the development of human societies are one and the same thing. Education makes the social man." The reconstruction of our educational system is, accordingly, fundamental in the reconstruction of our civilization. We must have a more socialized education. By that I mean for the present, negatively, one which will produce not the slacker, the profiteer, the exploiter, whether in war or in peace, but the citizen, who habitually identifies his welfare with that of the community and the nation, in whom the sense of the value of social and national unity dominates purely individualistic and class motives.

But social unity, tho it be the unity of the nation or even of humanity at large, is not enough to define the aim of socialized education. Beyond the achievement of social unity lies the task of developing our civilization so as to produce a better world. Beyond the problem of unity is

[1] H. G. Wells in *Joan and Peter*.

the problem of progress, and this looms as the larger problem in any view which takes in the future. Progress, to be sure, can not be achieved without unity, and all true social progress must ultimately result in more harmonious human relations, and so in a larger measure social unity, if it is not to negative itself. Nevertheless, social progress implies something more than social unity. It implies completer mastery over all the conditions of human living, both internal and external, and so the realization of higher social values. A truly socialized education will accordingly adapt the individual not merely to the social present, but even more to the social future. It will develop in him the imagination and the sense of social values which are necessary to construct a better social world. It will recruit him for that army of social advance which must undertake to achieve those victories and conquests of peace, far greater than those of war, which must be made if our civilization is to stand in the final judgment of history; but it will do so, not so much upon the basis of humanitarian enthusiasm, as upon the basis of a clear understanding of the facts and forces which have been shown thru scientific research to enter into the making or the marring of human life.

But for us in America even preparation to carry on the great work of civilization to higher levels of social achievement is not sufficient to define socialized education. For upon us has devolved the heavy duty of social leadership for all the nations. A far-thinking English friend of mine remarked to me in 1914, at the outbreak of the Great War, "America will now have to take the lead in civilization for the next five hundred years." Whether this will prove true or not, it is true that the opportunity of leadership is presented to us. Not only is the world looking to us politically for leadership in international affairs, but it looks also to us for the demonstration of those moral and social ideals which will make possible the realization of liberty, justice and fraternity in all the nations of the earth. We must beware, however, not to follow Germany in its mistake of trying to lead the world thru the acquisition of

political and industrial dominion. Rather ours is the higher task of leading in civilization by demonstrating to the world the possibility of a social life characterized by increasing liberty, justice, and fraternity and by increasing production of those goods and values which satisfy the higher demands of the human soul. We should hasten accordingly to get rid of that curious combination of love of power, of love of success at any price, of love of ease and of pleasure, which so dominated American character in the last third of a century that even a friendly European critic could say that he feared that the Americanization of the world might mean "the swan-song of civilization." The Americanization of the world should mean the making of the world safe, not only for democracy, but for higher humanitarian civilization. If we are to assume the heavy responsibilities of social leadership for a world, it is evident that our system and ideal of education must be radically reconstructed. We must have a socialized education in a deeper sense than the one which those who use the term commonly mean. Our education must function with reference to "the great society" of humanity as well as with reference to national unity and progress. Our problem then becomes the education (or shall I say the re-education?) of a world. For the way we lead, the world will probably follow; and the way we train our leaders, so shall we lead.

To come at once to the heart of our problem, without stopping for any formal definition of socialized education: Our school system is central in our education, and our colleges and universities, producing as they do our educational leaders, are central and dominating in our educational system. Now the vital thing in our educational system, from elementary school to university, is the curriculum; and the consideration of what sort of curriculum is demanded by our social situation will serve better to define the socialized education which we should aim to realize in the reconstruction of our education than a formal definition. Of course, within the limits of a paper such as this,

concrete methods and practises can not be dealt with. Only the general, underlying principles which should govern the making of a curriculum which will satisfy the demands of a socialized education will be discust; but these principles, with such modification as will fit them to concrete conditions, will apply to our whole educational system from elementary school to university.

What, then, are the principles which should guide us in forming curriculums in our schools adequate for our social needs? Let us remember, first of all, that in man the chief organ of adaptation, both in his physical and social life, is the mind. The freeing of the mind, the development of its powers, and the disciplining of it to social use has been, in general, the fundamental aim of all modern education, and this aim socialized education fully reaffirms. Only it would throw the accent upon the social purpose involved in this aim. The freeing of the mind, for example, is not an end in itself, as many have thought, but is essential because the mind is the chief organ of adaptation in our social life, so that without true mental freedom even a safe, to say nothing of a desirable, social life is impossible. On the other hand, thru the freeing of the mind, the development of its powers, and the disciplining of these to social use, social life which is plastic, adaptable and progressive is practically assured. Hence a socialized education means, first of all, a liberalizing and liberating education of the mind; and subjects which are especially adapted to achieve this, if we wish to maintain a free social life, are bound to receive primary consideration. The proportionate value and claim of each in different parts of the curriculum, however, must be worked out upon the basis of other considerations which will be taken up later.

Here a remark regarding the study of language may not be out of place, on account of both our national and our international situation. Language, together with his superior intelligence, is the distinguishing mark of man as man, and the foundation of civilization. Just as mind in the individual is the chief organ of adaptation, so lan-

guage in the social life is the chief means for the inter-adaptation or inter-adjustment of individuals. It is not only the vehicle of social tradition—of all the knowledge, ideas, and values of past social life—but it is also the primary means by which new ideas and values are diffused thruout a group and social changes or new adaptations on the part of a group effected. Language study is accordingly the basis of all social education. This has long been recognized, tho not always with a proper emphasis on details. Some linguistic teaching there has been which has seen in language study not only the basis, but also the superstructure of a social education; and other which has forgotten the social aim altogether. Again, the study of the vernacular has been, in days gone by, let us hope, underemphasized. But we now see that we can not achieve adequate national unity without unity of language; and that some degree of mastery of English is necessary on the part of all of our citizens if we are to share in the same ideas and ideals, to have quick and sympathetic understanding among all classes, and to have power to form rational public opinion upon questions which confront the nation. On the other hand, whether the war issues in a League of Nations or not, we shall continue to need knowledge of other languages than our own. Especially do we need a more widely diffused knowledge of modern languages if we are to play our part in the social leadership of the world. We can not work for international unity and harmony unless we can speak the languages of the leading nations. For the soul of a people can be got at fully only thru a knowledge of its language; and sympathetic and harmonious relations between nations as between individuals, can be established and maintained only when there is quick, clear, and definite means of intercommunication between them. World leadership in democracy and in humanitarian civilization, then, demands of the American people more study of the languages of the chief civilized nations.

Thus far, perhaps, nothing has been said which is deeply

at variance with the accepted educational tradition of those who are in authority in our schools, colleges and universities. At least the general idea of a liberalizing and liberating education and of the fundamental value of language study in such an education has long been common. But such an education is not enough to be called socialized. It lacks the element of definite, specific social information. We live in a social world more than in a world of physical objects. Our chief adjustments must be made to men and to institutions, not to things. Human relationships, in other words, make or mar the world we know. They count for more in human happiness and in the creation and preservation of all other social values than everything else put together. Nor is it true that we may safely trust common sense and common experience to adjust the individual to this world of human relationships any more than we can safely trust the farmer to learn thru common sense and experience how he should farm in this modern world. The social world has become far too complex for the individual to make intelligent adjustments to it without a large fund of social knowledge. Our civilization has become such a complex system of social relationships that no one can play his part in it well without a very considerable amount of general and specific social information. Moreover, many new social experiments are being tried thruout our civilization whose success manifestly depends upon the general diffusion of what we may call social intelligence. Democracy is such an experiment. In the sense of a form of social control in which the opinion and will of every adult member of a group enters into the determination of group behavior, it is the great adventure of our civilization. The attempt to establish democracy without providing adequate political and social education for the mass of citizens, as has been well said, is either a farce or a crime. If we want democracy to succeed we must educate for democracy. It is nothing short of treason to democratic institutions to send forth from our schools and colleges young men and women who know little or

nothing of the responsibilities, duties, and privileges of citizens in a democracy and of the social conditions and ideals which are necessary for the success of democratic society.

Yet what are the facts? A former colleague of mine, a professor of chemistry who came to the United States from a European university early in the seventies, told me shortly before his death several years ago, that he found more generally diffused political intelligence among the American people in the seventies than in the first decade of the twentieth century. Other elderly men have told me the same thing. The explanation is, of course, that in the seventies the American people still had the habit of gathering together in a communal way for the discussion of social and political questions. Later this custom, with the growing complexity of our social life and increasing heterogeniety of our population, fell into disuse; and the public schools failed to make good the deficiency in social and political education left by the decay of the public forum. As a matter of fact, it is safe to say that a majority of our college graduates—and a very large majority if we include the graduates of our technical schools—have gone forth from their institutions without any adequate ideas as to the structure and aims of democratic society and government. Even the young men and women who were supposed to be trained for social leadership, in such professions as the law, journalism, teaching, and social work, spent so much time on professional technicalities that they acquired little social knowledge of the broader sort and almost no discriminating judgment in social and political matters. Hence they remained unfitted for social leadership. It is no wonder that under such conditions other English-speaking countries, such as New Zealand and Australia and even Britain itself, forged far ahead of us in the development of true democracy. It is no wonder, also, that as a nation we failed completely to understand the significance of developments in Germany for the past thirty years.

Here, then, we must cut loose from that educational dogma common in the past, which says that one subject is as good as another for educational purposes provided it is pursued far enough and studied in the right way. We have a newer answer to the old question, "What knowledge is of the most worth?" The common experience of mankind ought to show us in this crisis of the world's affairs that the knowledge most worth while is knowledge of human beings in their relationships of human living together and the problems involved therein. The vital thing which should be sought in all education is social adjustment and social efficiency; and the foundation of these is good citizenship, by which we mean not merely intelligent voting, important as this may be, but efficient membership in a community, good neighborship, good fatherhood and motherhood, and, in general, fitness and readiness for community and national service. All these things must a man realize, even more than efficiency in any vocational class or profession, for good citizenship; and socialized education will recognize the studies in the curriculum which make for fundamental good citizenship as fundamental.

We must also oppose the reactionary educational dogma, unfortunately championed by some who wish to restore the old-fashioned classical training, that what is needed is not more subjects in the curriculum, but the elimination of many already there. What is needed is more social and political education, for the right functioning of our educational system; and until social studies receive more recognition in the curriculum than is at present accorded them, it is reactionary to propose the cutting down of the curriculum. The primary demand of socialized education, indeed, is that more time be given to social studies. By this we mean studies which are concerned fundamentally with human relationships and conditions, such as history, community civics, domestic science, public hygiene, economics, politics, sociology, ethics, anthropology, and the more elaborated or specialized branches or applications of

these. At least one-third of the time of the curriculum from the elementary grades to the end of the A.B. course should be devoted to such social studies. The child has to live in a social world and the primary adjustments which he has to make are to people. These subjects, then, represent the most important part of his training for citizenship. They must not be withheld from him, even if some subjects of the traditional curriculum suffer. Nor must they be taught, except possibly in some of the grades, indirectly by giving to the older subjects in the curriculum a more social content and direction. This latter is eminently desirable, but if accepted as sufficient, the newer social studies will be inadequately taught.

To apply what we have just said to our educational system: Even in the grades simplified social studies of our home life, community life, our industry, our city, state and national government, our history and national ideals, should be given large space, if we wish to make good citizens. In our high schools definitely social studies should be given more attention. We need, for example, not less history in the high school, but more history with a definitely social point of view, and distinct courses not only in government or political science, but also in economics and sociology. In our college curriculum it would seem almost criminal, in view of the burning social needs of the world, to graduate young men and women without even the elementary courses in economics, political science and sociology, to say nothing of other social studies and of the background furnished to all of them by political, industrial, educational and general cultural history. Finally, the universities should carry on a continuous program of social research, with the cooperation of state and national governments, to furnish the exact social information needed for social education. The policy of our universities, even more than of the British Labor Party, should be to stand for the increased study of social problems, for the scientific investigation of each problem, for the deliberate organization of research, and for a much more rapid dissemination

among the whole people of all the scientific knowledge concerning social conditions which exists.[2]

But socialized education can not stop with the giving of mere information regarding social facts. An education which is truly socialized will have a social aim, a social purpose in view. It will not divorce by academic abstraction judgments of value from judgments of fact. On the contrary, it will point out and seek to inculcate values, standards, and ideals, as soon as sufficient scientific knowledge of facts has been attained on which to base scientific social standards and ideals. Thus as soon as we have ascertained the conditions and effects of child labor, we have the knowledge on which we can base and inculcate a scientific standard regarding it. If this were not so, social education would be useless. Again, American history should not be taught to the undergraduate student as a mere assemblage of facts or as a mere process of development; but its great lessons in freedom, in democracy, in social justice, and in human achievement generally should be set before the student. If we do this, we need not worry about the inculcation of patriotism in the abstract; for spontaneous loyalty to the great ideals which our nation has struggled to realize will be evoked, and this is the only patriotism worth while.

Socialized education means, then, moral education; for it will be education into community, national, and human ideals; not simply into those ideals as they are, but as they ought to be in the light of full knowledge regarding human relationships. Hair-splitting theorists have long assured us that moral education in our public schools is impossible, impracticable, or useless; and hence for the most part only half-hearted attempts have been made in this direction. But the good citizen is the highly moral citizen, and we can not evade the issue. The pressure of public opinion has, indeed, forced into our schools for a genera-

[2] Compare the Report on Reconstruction, Labor and the New Social Order, by the Sub-Committee of the British Labor Party, published in The New Republic, Feb. 16, 1918.

tion instruction on a very important moral question with very beneficent results—namely, on the use of alcoholic beverages. This illustration shows not only that moral instruction is possible, but it suggests at once the proper method. Morality can not be taught effectively as an abstraction, but only thru the study of the concrete problems in which the moral situation emerges. Social education, in other words, is the key to moral education, The trouble with most of the moral instruction in our schools in the past is that it has been divorced from the facts of our social life. If we will base such instruction upon scientific social knowledge, we can as readily inculcate ideals regarding government, law, sanitation, family life, business, and human relations generally as we can standards of vocational excellence. In either case we do not expect such instruction always to be effective, but it will greatly aid. Moral education of the most idealistic sort, then, can be readily and effectively given in the public schools, if given rightly, and it is a necessary part of socialized education.

The moral agnostic will ask: How do we know the general nature and direction of moral ideals? What shall be our standard of moral judgment, happiness, power, or development? What shall be the unit of our moral valuations, the self, the nation-state, or humanity at large? Until these questions are settled, is not moral instruction in our public schools as out of place as dogmatic religious instruction? Many have answered, "Yes;" and the unthinking public have tended to acquiesce, if not agree. But the answer is that practical human affairs will not wait for such questions to be settled in a metaphysical sense, and that already we possess enough knowledge to answer these questions practically. The common experience of mankind has shown that there are some ways in which human beings can live together harmoniously and efficiently, and that there are other ways in which they can not. The present crisis in the world's affairs, for example, has shown clearly enough the inadequacy of the happiness ideal of life for the individual, and equally clearly

that the power ideal of life belongs, not to civilization, but to the brute-like ages of the primitive past. It has also shown that the unit of moral thinking can not be the self, or the national group, but must be humanity at large. But it has left us with the service ideal of life and the development ideal as our practical guides. Thus has calamity confirmed the best ethical thinking of our civilization for the past two thousand years—thinking to the level of which our civilization in general has never risen, owing to the lack of adequate moral education. The watch-words of every school accordingly should be self-development and social service; but the development of the individual, it must be emphasized, is for the sake of service, first the service of the family and the community, then the service of the state and nation, and finally the service of humanity at large. This implies not only the development of the individual, but of the community, of the nation, and finally of humanity. Thus we see that the service ideal and the development ideal are not in conflict, but blend, and are really two sides of the same ideal of life. Service is, however, the social side of the ideal and will accordingly become the more emphasized the more thoroly socialized our education becomes. "Social education aims," says Professor Todd, "to create social solidarity by means of a social type marked by service."

Nor can such moral education which inculcates the service ideal of life be fairly called "dogmatic." The service ideal is elastic, dynamic, experimental, and does not stifle individual conscience and judgment, tho it does give a definitely social direction to the moral life. Blended with the development ideal it replaces the old negative repressive morality with a positive and constructive social ethics. It not only tends to harmonize the relations between individuals thru developing cooperative attitudes, but it is for the same reason highly favorable to social progress. Finally, it leads directly to that consecration of life to the service of humanity which is the essence of socialized religion, and without which humanitarian civilization can

have no secure foundation. For these reasons the inculcation of the service ideal of life must be considered to be the heart and core of socialized education; and one must sorrowfully add that in some ways the Great War has done more in a few months to inculcate this ideal than our schools have done in a generation.

Finally, a socialized education must make adequate provision for vocational training. To be a good citizen or to serve humanity at large, one must be usually self-supporting, must find one's work in the world, and be able to do it well. Whether we believe in a "work or fight" order or not, we are beginning to perceive that the service ideal of life demands that everybody in normal health be occupied at some useful work, and that in a democracy there is no place for a class of idlers. Moreover, we are also beginning to perceive that all service, all constructive labor, is of social value, and perhaps more nearly of equal social worth then we had supposed. Socialized education would be a failure, indeed, if it did not culminate in the individual's finding his life work, his proper vocation, in society. As has often been pointed out, the older education was narrowly vocational in that it took into consideration only preparation for the three learned professions, the ministry, law, and medicine. The new education aims, on the other hand, to be broadly vocational in that it recognizes the claims of all socially useful vocations upon the educational system, and that in a democracy all citizens have the right to find in the schools special aids for preparation for their life work.

But enthusiasts in vocational education have often made one or two mistakes. First, they have often wished to vocationalize the whole educational system, or to place specialized vocational training too early in the curriculum. But vocational training should come at the end of a socialized curriculum, not at its beginning; it should be its crown, not its foundation. Preceding all vocational education should come the liberation of the mind, the understanding of social facts, and the appreciation of social values. The

second mistake which some enthusiasts for vocational education make is that they confuse it with socialized education in general. But vocationalization is only a part of the process of socialization. To mistake the part for the whole is an unpardonable error, for it will land us in worse difficulties than before. An efficient lawyer, or farmer, or engineer, is not necessarily a good citizen. In fact, the common experience of life often shows the reverse. To argue that good citizenship consists simply in vocational excellence is to misconceive the whole nature of the social life and of socialized education. Vocational education obviously can only be made safe for democracy and higher civilization by attaching it to a general programme of socialized education. The larger part of our grade work, our high school work, and our undergraduate work in college should be kept free from vocational training on account of the danger in it of narrowness and commercialism. We must, however, have a system of vocational education, open even to the child of the humblest citizen, as the crown of our whole educational system; but we must never forget that all men in a democracy are citizens first before they are members of any calling, trade, or profession.

Let us conclude this sketch of a programme for the reconstruction of our education upon a social basis by noticing briefly the three principal agencies which must be invoked for the establishment of socialized education; namely, the teacher, the nation, and the college or university. The teaching profession must be taught to look upon itself as a social service profession, and the individual teacher must regard himself as a social creator. He should know that his work is nothing less than to mould the social future, thru contact with human life at the point where there is the greatest possibility of improving that life—where one generation is linked to its successor. If the teacher and the public understood the teacher's social function, the whole status of the teaching profession would be changed. The teaching profession, without distinction of grade, would then be recognized as one of the most valuable to the com-

munity. But to understand his social function the teacher must be trained in sociology. He needs sociology to do his work rightly, indeed, even more than he needs psychology; for he is more likely to succeed if he has some vision of his social mission than if he has merely psychological knowledge of pedagogical methods. Yet few teachers are today receiving any adequate training in sociology. Few, for example, are prepared to read intelligently such a book as Professor Todd's *Theories of Social Progress*.[3] Most would see in it merely a discussion of a series of idle speculations without practical bearing upon their work. Yet, if read understandingly, no book would throw a more vivid light upon the educational problem of the present or upon the general social significance and meaning of education. We must have sociologically trained teachers and educational administrators, then, before we can have a system of socialized education. The first step toward securing socialized education should be a movement to require sociology in the training of all teachers.

But the nation must be the unit of socialized education and the agency of the federal government must be invoked for its final establishment. Good citizenship is a national concern; indeed, there is no other national concern which approaches it in importance. Training for good citizenship can not be safely left wholly to local authorities. The unity and the progress of the nation demand a national system of education. The war has revealed the need of a national system of education in a striking way, and the teaching profession should lose no time in demanding the establishment of a federal department of education, whose secretary shall have a seat in the President's cabinet.[4] That we should have a Secretary of Commerce and not a Secretary of Education is a striking comment upon our national character. The problems of our national life touching upon national unity and efficiency, such as the

[3] The Macmillan Company, 1917.

[4] A bill to create a federal department of education, whose Secretary shall have a seat in the President's cabinet, is now before Congress.

Americanization of the immigrant and his children, the training of the negro, the overcoming of illiteracy, and the training of all citizens in democracy, can not be dealt with effectively except thru a national system of education. This does not mean that we are going to imitate Germany and introduce a system of fostering national egoism; nor does it mean that we are going to have such a centralized system of school administration that local initiative and modification will be discouraged. It only means that the nation will set the standard for education for every community within its borders, and that there will be real coordination and genuine cooperation between national and local authorities in solving the educational problem. Just as state systems of education in our various states have left free every local community to surpass, if it choose, the minimum standard of education set by the state, so a national system of education would leave any state free to surpass the minimum national standard. Again, our state systems of education have found it convenient to leave the field of education open to private initiative, provided that private schools conformed to certain standards; so, too, would a national system. There is nothing to fear from a national system of education in a democracy, and much to hope. Education is a national concern, the vital national concern, and a socialized education, such as we have sketched, which aims to develop national and social idealism, to fit the nation as a whole for the realization of its high destiny, must have national support and be organized on a national scale. Yet in the two bills for social reconstruction after the war now before Congress, there is no mention of education. Britain, on the other hand, in its plans for reconstruction, is making the reconstruction of education fundamental. It is not yet too late, however, to start a similar movement in this country; and this should be the second step in the securing of socialized education.

But the university is the vital agency in the final establishment and maintenance of social education, since it trains, for the most part, the social and educational leaders

who shape the opinion and policy of the country. If the colleges or universities are lacking in the spirit of social service, if they do not stand for training for citizenship, if they do not encourage social research, and if they do not aid in the diffusion of scientific social knowledge among the masses, it is idle to dream of socializing education. The university must lead, as it has been given the place of leadership in our educational system. It has been and remains the most active agency in educational reconstruction. No college or university in America, however, has as yet given the social sciences their rightful place, and in some in the past they have only been tolerated when stript of any practical social aim, as in the case of history very frequently, or when brought into line with our commercialism, as in the case of economics.

Besides providing adequate instruction in social studies proper for its undergraduates and inculcating the spirit of social service in connection with all of the courses it offers, every university in the land should attempt three other things if it is to fulfil its social function: First, it should make ample provision for the training of social leaders along all lines in its graduate and professional schools; second, it should make more liberal provisions for social research, not only thru its equipment and fellowships for graduate students of scientific ability, but also thru research professorships; third, it should provide thru publications of various kinds and thru extension work for the diffusion of social knowledge and the promotion of social welfare among the masses. Ideally, the university should spend as much energy in helping to organize communities for the work or social reconstruction as it spends upon instruction in the social sciences within its walls. The university, in fact, is the natural leader, the natural unit, for the rational scientific reconstruction of our social life. This is the main thesis of Professors White and Heath's notable little book on *A New Basis for Social Progress*,[5] a work which is well worth reading by university instructors and administra-

[5] Houghton Mifflin & Company, 1917.

tors in spite of its many overlookings of all that is involved in social progress. Some universities have been attempting to work toward this ideal, but most of our universities in the past have been asleep to their social opportunities and responsibilities. But let us hope that this war has awakened them to the need of assuming their responsibilities for leadership in establishing an educational system which shall deliberately set before itself as its task the conscious development of our civilization in the interest of the greatest social welfare of humanity.

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II

A COURSE IN ECONOMIC GEOGRAPHY FOR THE HIGH SCHOOL[1]

Three events loom large in the history of geography in America in the past century. One was the arrival in America 72 years ago of the Swiss geographer, Arnold Henry Guyot, who brought with him the wide horizon of the real geographer, the kindly human interest which is the geographer's greatest asset, and an inspiration for scientific analysis, hunting out the fundamental physical influences at work on life and conditioning life at every turn.

A second event of great significance was the appointment in the late eighties of a committee of the N. E. A. consisting of Davis, King and Collie, who reported out the argument for the new American study of physiography.

The third event of moment was the publication in England, in 1889, of a volume on *Commercial Geography* by George G. Chisholm.

The work of Guyot gave scientific organization to geography. We had our science expressing itself in the formal divisions, mathematical, physical and political. And then the fascinating development of physical geography began, the livest and most broadening subject taught in the schools a generation ago.

Then came the specialists in geology, and transformed physical geography, a subject which had been throbbing with life interest, into a narrow, lifeless geometry of three dimensions, applied to land forms—a chapter in geology, and to a large extent renegade to geography.

Chisholm, however, chose an angle of the horizon packed with human interest, and strove, as Guyot had done, to

[1] Read at the Columbus, Ohio, meeting of the Central Association of Science and Mathematics teachers December 1, 1917.

find the fundamental physical factors, the geographic influences, at work in the broad field of commerce. And we in America borrowed his work bodily. He had made an octavo volume of about 700 pages, filled with detail. He dealt with the geographic influences at work; then he discust all the important commodities of commerce; then he presented a study of all the commercial countries. Within two years Cyrus C. Adams brought out the first American text in commercial geography, and, in a smaller format in 500 pages, he went over the same ground as Chisholm, giving us conditions, commodities and countries—omitting nothing.

This text of Adams was a godsend. It gave an opportunity for a host of earnest teachers to bring into the curriculum a subject with limitless possibilities of interest, applying the scientific method in the interpretation of everyday matters of industry and trade. Not that the text gave this interpretation. It gave masses of fact, and the teacher and student brought to bear whatever genius they may have had in making geographic interpretations. But the very mass of fact implied in 500 pages treating all commodities and all lands has proved a great handicap. Condensing all this material into so small a space, and rushing over it in a unit course, has of necessity reduced the work of the student to so rapid a scanning of many things as to leave small chance of getting fundamentals firmly planted in memory or to achieve any particular ease of mind in the thinking out of causal relations. The success of the Adams text and the recognized value of this phase of geography as an element in education have produced in this country a string of texts: Redway, 1903; Trotter, 1903; MacFarlane, 1905; Gannett, Garrison and Houston, 1905; Gregory, Keller and Bishop, 1910; Robinson, 1910; Brigham, 1911; J. Russell Smith, 1914; J. McFarlane, (University of Manchester), 1914 (?); Dryer, 1916; J. Russell Smith, 1917.

These texts all show a strong family resemblance. To the latest one of them the Chisholm features are plainly

still with us. But the variations in emphasis one from another, show a recognition of the difficulties we are discussing. MacFarlane (1905) gave himself some freedom in discussing certain crops and other commodities of vegetable origin, making that part of his composition less dry, less like a catalog of things. That was because he was first a botanist, and brought to his composition a mind full of plant lore, and with a lively interest in plant life. Keller and Bishop (1910) gave rein to the discussion of the human element, doing their part of their three-cornered text most suggestively. Robinson (1910) and Brigham (1911) began to amplify the discussion of certain crops and other topics, while J. Russell Smith permitted himself pages enough to get quite away from the dry-as-dust textbook composition and make a discussion which is interesting reading even for the man in the street. But this freedom made a book too large and expensive for the audience he wished to serve, and the condensed version (1917) has with it still the great handicap of too large a field.

After many years of teaching in this special field of geography, and striving always to delimit the scope of the subject so that one may, by earnest effort, in the course of a lifetime, acquire something akin to an easy mind in the subject, I have come to a positive conviction that our error has always been one of uncurbed ambition. We have been greedy in trying to do the whole world of things at once. We have been like the boy in the fable who reached into the jar and took so many nuts he could not remove his hand. In the slang of the countryside "we have bit off more than we could chaw."

Why not then face the difficulty boldly? Let us limit our scope to a field we can cover. Let us establish standards in subject matter and methods of presentation. Let us be brave enough to undertake only what can be covered thoroly, with time enough to fix in the mind of the student the principles of geographic interpretation. If it shall turn out that more time in the curriculum must be given

to geography let us not worry; let us go to it and demand the place in the curriculum the subject requires.

I would have in every high school at least three unit courses in geography: I. The Principles of Geography; II. Economic Geography; III. Commercial Countries.

In every junior high school the first of these courses, I. *The Principles of Geography*, should be given. This course should give a general view of the physical factors at work upon mankind. This may well be a ground work upon which all later courses in geography and history may be based. It should be required of every student.

The second of the courses mentioned above, *Economic Geography*, is the one of largest present interest, and is the part of the geographic horizon to which I wish to invite most careful attention at this time. Its proper place is in the senior high school, say in the next to the last year.

In Economic Geography I would discuss two groups of topics: A. The Commodities of Commerce. B. The Geography of Trade. This calls for a recognition of the entire list of geographic influences, acting as they may act, anywhere in the world, in the production and movement of a given commodity. This establishes a wide view of world relations, and gives a good preparation for the study, in the following course, of a country or region, as an industrial, or commercial, or national unity. Let us set down here a more detailed outline of this important course:

II. Economic Geography.
  A. The Chief Commodities of Commerce.
    1. The products of the forest.
      Lumber, rubber and other gums, naval stores, cork, drugs, and the like.
    2. Products of hunting and fishing.
    3. The products of the grazing lands.
      Wool, hides, meats.
    4. Products of the farm, orchard, and garden.
      The cereals: wheat, corn, rice, rye, oats, barley, etc.
      Sugar cane, sugar beet, potatoes and other root crops.

Fruits of tropic and temperate lands.
Vegetables, and varied crops.
Dairy products, hides, wool, meat.

5. Products of mines, quarries, wells.
   The mineral fuels: coal, petroleum, gas.
   The metals: iron, copper, lead, zinc, mercury.
   The precious metals: gold, silver, platinum, etc.
   Building stones, cement, precious stones.
   Clay products.
6. Products of factories.
   Foods and beverages.
   Textiles, leather goods, clothing.
   Paper and other manufactures of wood.
   Machinery and metal wares.
   Chemical manufactures.

B. The Geography of Trade.

1. Advantage of position with reference to trade.
   E. g., advantage of Western Europe, opposite Eastern America, and close by.
   Advantage of Europe in trade with Africa and India.
   Advantage of United States in Western South America, and the Orient.
2. Development of great overland routes of trade.
   The great highways of Europe and Asia, and of North America.
3. The great ocean routes.
   The highway of the North Atlantic, of the Mediterranean, of the Orient, of Panama, and the Great Circle Routes.
4. The organization of ocean commerce.
   Tramp and liner.
   Shipping trusts, government participation.
5. The development of market centers.
   Great general, and trans-shipment points.
   Markets of special commodities.
      Wheat and cotton at Liverpool.
      Wool, tea, diamonds at London.

Coffee at New York.
Bananas at New Orleans.

The scope outlined above is amply big for a unit course. There is no subject in the curriculum which offers a better opportunity than this course does for training the logical faculty, or for widening the horizon of the student in matters of every-day interest in the world about him. It is a liberal education in itself.

As an illustration of the method of study, showing the thought-provoking possibilities of the subject, let us indicate the sub-topics in the study of one of the cereals, say:

Wheat.

1. Plant characters of wheat, and our knowledge of its origin.
2. Climate and soil required.
3. Types and qualities of wheat as related to climate and soil.
4. World's wheat-producing areas, and reasons for location and importance.
5. Influence on production of land surface, labor conditions, use of machinery, transportation facilities, skill of the farmer.
6. Problems of milling, marketing, establishment of the world market center, and the method of making the price.
7. Wheat in international commerce and politics.
8. The problem of the wheat supply of the future.

In every stage of this discussion the teacher is on guard that the geographic influences are being discust. The criterion of any point discust must be as to whether it is, or has, a geographic influence. This discussion of wheat goes down to the roots of things for many influences at work in Britain and Germany, in the United States of America, and in other, newer wheat-producing lands. It calls for some knowledge of historical development in all the lands in the world whose people must buy wheat or who have wheat to sell.

Or suppose we take the topic

Sugar: we should have:

1. Historical sketch of the rise of sugar.
2. Plant characters of cane.
3. Climate and soil required for cane.
4. World's producing areas, as related to climate, soil, labor, transportation and market facilities.
5. A survey of the farmer's problems—planting, cultivation, harvesting, preparation, marketing.
6. Historical sketch of the rise of the beet.
7. Changes in character of plant under domestication.
8. Soil and climate required.
9. Beet areas in Europe and America.
10. Rise of the beet in America.
11. Sugar refining and marketing the final product; location of refineries.
12. Uses of sugar: their influence on commerce.
13. Output of sugar by the important producing regions.
14. Government interest in the sugar industry, in Europe and America.
15. The future of the sugar supply.

Here again one must open the question of tropical *versus* temperate agriculture, and labor conditions: Must look into the almost unbelievable complications, economic and geographic, following a settled government policy in Germany of fostering the production of beet sugar: Political relations between Britain and Germany, and between Britain and her colonies—as well as unsuspected economic influences in our American attitude toward imperialism.

Or suppose the topic is the most important metal:

Iron: we must inquire as to:

1. The qualities which make iron and steel valuable.
2. The significance of iron in the civilization of the race.
3. Chief iron-producing regions of the world.
4. Methods of winning the ore: in Minnesota, in Sweden, in Spain, and other countries.
5. Problems in transportation of the ore—the question of limestone and coke.
6. The phosphorus question, and steel-making processes.

7. Present rank of regions producing iron and steel: a geographic interpretation of their relative importance.
8. The price of steel since 1850, and the significance in industry and trade of cheap steel.
9. The trust control, and the development of government interest in steel manufacture.
10. Estimates of the world's total stock of ore, and the significance of the location of the ore bodies.

It may be observed that the study is avowedly economic as well as geographic, and geographic and economic influences underlying industry and commerce and human welfare are sought in every stage of the study. This makes of the subject a fascinating field for both teacher and student and it has the superlative advantage of continual growth, of eternal youth. It is quite unlike a paradigm or a table of constants, calling for memory only. It calls for an alert mind, a mind that takes delight in searching out the causes which explain the intensely interesting and endlessly moving phenomena of the world about us.

Let us now mention the logical successor to the course in economic geography, a course which makes a somewhat careful geographic interpretation of the commerce of some of the leading commercial countries. Lets call it

III. Commercial Countries—a course which should come as late as possible in the senior high school.

The point of view is now avowedly regional. The unit is the country. And again we run the gamut of physical influences, acting now in a given region and getting certain responses in industry, transportation and the segregation and occupations of the people. Now all we have learned of the influences at work in the location and development of commodities may be used as material for clear thinking in the present status and stage of industrial development of a country. We shall find here an interest in a people and their place in the world.

There should be no attempt to discuss all countries. Important countries should be chosen and studied as to com-

mercial development and possibilities. We may begin with a statement of the rapid growth of world trade in recent decades, and take for our task the geographic interpretation of this marvelous development. We shall want to know what leading countries have been most conspicuously active in this development, and in what particular lines of development, industrial and commercial, these nations have been conspicuous. We shall look for the trend of commerce in the leading commodities exported and imported thru the decades, and be able to account for the changes in the rank of these commodities; for the dying out of some lines and the rise of new lines to a prominent position. Then we must analyze the trade to show the international relations, the trend of trade thru the decades with the countries of largest intercourse—and be able to find in the facts we deal with, the reasons for these changes.

First of all the countries studied should be our own. And we should compare it with some young tropical country, say, Brazil. Then Britain might be studied in similar fashion and compared with the United States of America as a young nation, and with India as an old tropical people. Germany in turn may be taken up, and studied in contrast to Russia, and possibly with Argentina, to bring out the surprizing contrasts. France and Australia, for contrasts of old and young, and Japan and China for another phase of development of old countries, presenting phenomenal signs of rejuvenescence.

The opportunities for development in such a course are endless. It is a course as live and as recent as the evening paper. Tho the principles of the subject may be rooted in the very nature of things, its data are in continual flux with the every-day changes in the weather, the changes of market conditions, and the continual shifting of international political relations.

For these reasons it is not an easy study to prepare in, or to teach. The materials are all around us in every business we may look into. There is a continual incentive

to follow developments in such periodicals as the World's Work, The Nation's Business, and the more technical trade magazines. Especially fortunate are we in our government, which in special monographs in many fields is publishing, at no cost to us, the finest material obtainable. The daily *Commerce Reports* are invaluable. The special reports of consuls and trade experts put the richest storehouses of material into our hands. Even the daily papers have grist for our mill, and just in proportion as we are properly educated, the space devoted to scandal and gossip in the press will decrease.

No course has such a wealth of potential graphic material waiting for it. Graphic statistics become eloquent. Maps of every sort have tremendous possibilities in presenting our subject matter. An atlas should be in every student's hand. Unfortunately there is no atlas in existence that really meets our needs.

No subject could be more significantly aided by pictures. These three courses could with profit use a thousand typical pictures. As photographs, as lantern slides, best of all as stereographs, they may be made strongly to reinforce the text or class discussion. Even the movies occasionally, as it were by accident, give us valuable educational films. I fondly hope the time may come when such courses may be equipt with moving picture machines and libraries of films.

This entire subject, properly presented, is not merely three unit courses or three years of high school work. It is rather an inoculation of intellectual good health which will last thru life. The reward of such a study is found in the exhilaration of a constantly widening horizon and of a migration out of a provincial frame of mind into an atmosphere of serious, worthy cosmopolitan interests.

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III

A STUDY OF ENGINEERING EDUCATION[1]

It was only a few years ago that Schools of Engineering were forced to justify their right to exist and to defend the soundness of the training they offered in preparing young men for industrial and engineering pursuits. It took courage and vision to advocate the need of scientific training as a preparation for engineering. Today the war has demonstrated the superlative need of trained men in engineering and science and has forced upon the whole world a clearer realization of the power of science to increase the productive capacity of mankind.

During these years our engineering schools have been continually readjusting their courses of study in order to strengthen the curriculum or to meet what seemed to be justifiable criticism on the part of the alumni and the engineering societies. In general, the tendency has been to expand in the direction of greater specialization rather than to lay emphasis upon a broad and thoro grounding in fundamentals.

Now the war has brought an almost imperative demand that we examine critically our present methods to see whether they will meet the world-wide readjustments incident to peace. It would be surprizing if in this field of education there were not much to be gained from the experiences of the last few years. Many instructors in the sciences and in engineering are returning to their duties after filling responsible government positions in the Ordnance Department, Chemical Warfare Service, or Signal Corps, in production and in transportation and in research laboratories of pure and applied science, and they will come back with a new point of view and with enlarged

[1] By Charles Riborg Mann. Bulletin No. 11 of the Carnegie Foundation for the Advancement of Teaching.

experience. Moreover, other instructors have been rendering valuable service to the government in the conduct of intensive courses of training for properly qualified enlisted men in such specialized branches as radio engineering, the manufacture of high explosives, the chemistry of photography, gas engineering, and the like. It is to be expected that these men will have something to offer in regard to the value of the intensive method of training for adaptation to peace conditions.

Again, the return of our engineering schools from a two-year basis established to meet the recent needs of the Students' Army Training Corps to their former status affords an additional reason why the present time is peculiarly appropriate for a critical analysis of our present methods and for possible readjustment and remodeling of our curriculums.

Consequently, the publication at this time by the Carnegie Foundation of a bulletin containing a critical survey of engineering education in this country is particularly opportune. The bulletin is entitled *A Study of engineering education* and is the work of Professor Charles R. Mann. It contains a most interesting account of the historical development of engineering schools in this country, a clear presentation of some of the shortcomings of the present system of engineering education, and certain suggestions for the improvement of the curriculum and the general betterment of the instruction. The material is deserving of the closest study by all who have the responsibility for the education and training of young men for an engineering career, even tho the report may contain little that is really new, and in some regards fails to touch upon what is considered by many men who have had actual experience in engineering education to be the real weakness of the present engineering educational system. Whether the report is looked upon as epoch-making or not, it will be generally agreed that it contains the most complete survey of engineering education available at the present time.

The origin of this critical study of engineering education

arose, according to the preface, from the action of a joint committee on engineering education representing the principal engineering societies. This committee, after gathering a considerable amount of material bearing on the subject, felt the necessity of having the study continued under some agency such as the Carnegie Foundation, in order to insure that it should be done on a comprehensive scale. The investigation has been made, I feel sure, without prejudice. The conclusions reached by Dr. Mann are interesting, suggestive, and valuable. They merit careful examination and analysis and will undoubtedly serve as a basis for constructive discussion.

On taking up a report on engineering education, those who have given thought to this subject look for a discussion of such questions as: What constitutes an engineering education? What should be its aims? How should its efficiency be measured? Wherein are the present methods at fault? If faults are found do they arise from too congested a curriculum, from too great a specialization, from a failure to devote sufficient time to a grounding in those subjects recognized as fundamental to all branches of engineering, from wrong methods of instruction, from a lack of correlation of material and inter-relation of subjects?

Professor Mann takes up these and various other important questions under two general headings, The Problems of Engineering Education and Suggested Solutions. The former deals with questions of admission, time schedule, content of courses, testing and grading, and shop work; the latter with the topics curriculum, specialization, teachers, and the professional engineer. It is quite impossible in a brief review to analyze and to criticize adequately and with fairness the mass of interesting and valuable material treated under these headings. All that should be attempted perhaps is to mention what appear to be the salient features and to offer any comments that may seem pertinent.

Under The Problems of Engineering Education, Professor Mann concludes that the present curriculum is so

congested thru too great a tendency to specialization that it is frequently productive of confusion in the mind of the student and results in superficial work; that there exists a lack of correlation of material and of subjects; that the method of instruction in many subjects is incorrect; that the systems employed for testing and grading are unsatisfactory; and that the present entrance requirements do not test the applicant's aptitude for engineering nor his ability to make a good record in college. Broadly speaking, there will be agreement with these conclusions, altho it will seem to many that the need of new methods for testing and grading is over-estimated, and that certain modifications should be made in any future tests undertaken in the hope of arriving at the final solution of the college entrance problem.

The general proposals for the reorganization of the curriculums of engineering schools are along well-established lines. No one will feel inclined to dispute the wisdom of not requiring too many hours of credit work each week, but there will be dissatisfaction with the recommendation to reduce the number to eighteen and preferably sixteen until the meaning of a credit hour is clearly defined. The suggestion that best work can be done by the student when the number of different subjects studied at a given time is not greater than five is educationally sound, provided a wise selection is made of the courses taken simultaneously. Also, the need of adequate provision in the first two years of a four-year course for "orientation, contact with real engineering projects, and the practical experiences that make a boy feel that he has actually left high school and entered upon a professional career" will be generally conceded, tho there will be divergence of opinion as to the interpretation of the word adequate. Professor Mann would be one of the first to acknowledge that efforts are being made in practically all engineering schools to meet this need, but he would hold that they are inadequate.

The fundamental weaknesses in the present methods appear to him to be at least two, (1) an insufficient co-

operation between the schools and the industries, and (2) the teaching of the fundamental sciences in advance of their application. The cooperative system at the University of Cincinnati appeals to him as the "most complete and thorogoing solution of the problem." At this institution the curriculum extends over a period of five years of eleven months each, and during this period each student spends two weeks in the classroom followed by two weeks in an industrial plant. The works furnish practical problems for discussion in the classroom, and apparently an effort is made from the start to coordinate theory and practise. Professor Mann speaks of this experiment of Dr. Schneider as an effort "to create a type of school that meets the demands of an industrial age," and makes a point of the fact that the graduates of this school are able to command engineering positions at graduation without one- or two-year apprentice courses, such as are required of men from other schools by a number of the large corporations. It is my belief that even the graduates of the University of Cincinnati will not be appointed to engineering positions with certain of the large corporations that maintain apprentice instruction without attending such courses. Moreover, it is well recognized that the demand upon our engineering schools to furnish men at graduation to fill positions is greater than the supply. It should be borne in mind that immediate usefulness at graduation along practical lines is the aim of the type of training offered by high grade vocational schools. The engineering school, however, aspires to a larger and broader efficiency, and any comparison of the advantages of different systems of training should be made not on what men can do at graduation, but upon what they have achieved ten or fifteen years afterwards. The graduates of Cincinnati are too young for a just estimate of the true value of this venture in engineering education, but this experiment will be watched with interest. In this connection one is inclined to doubt whether Dr. Schneider, if he were given ample funds and requested to

build an engineering school from its foundation, would adhere to his Cincinnati plan without modification.

Professor Mann is convinced that the present arrangement of teaching the fundamental sciences during the first two years in advance of their applications is wrong in principle and that engineering instruction will not be satisfactory until theory and practise are taught simultaneously. In support of this thesis he cites the general dissatisfaction exprest by professors of engineering with the preliminary instruction in mathematics, mechanics, physics and chemistry as measured by the inability of the students who have past such courses to apply the principles of these subjects with intelligence and assurance in the later technical work. He would apparently at the very outset of the engineering course provide the students with actual engineering problems, or projects, for analysis. In the investigation of such projects the students would be led to discover and master the principles of mathematics, physics, mechanics and chemistry involved and thus acquire a real working knowledge of the subjects so basic to all engineering.

Such a radical proposal for the reconstruction of science teaching would probably receive more sympathetic attention were it the result of actual experience gained by the author in the instruction of engineering students, and had he first discust certain other efforts that are being made to the same end, namely, the improvement of science teaching, and shown that they are unsatisfactory and educationally unsound. It is highly desirable that this project method of instruction be tried out under favorable conditions, as we understand is to be done in a school about to be established by the Engineer Corps of the United States Army.

Tho the inference made may be unjustified, nevertheless a careful reading of the report raises the query whether Professor Mann is not unconsciously advocating a method of instruction that is better adapted to the production of educated artisans than to the development of a high type of engineer. In any case it would be most unfortunate if

all technical schools should adopt the same system of training, and it is to be hoped that various carefully considered schemes which are in operation will be thoroly tested, notably the plan of placing engineering on a graduate professional basis like law and medicine. It is surprizing in a report that purports to be a comprehensive study of engineering education that such important contributions to the general effort to solve this big problem should be practically ignored.

One of the most interesting and suggestive chapters in Professor Mann's report is entitled The Professional Engineer. Here we find emphasized two features of an engineering training, the importance of which, tho recognized by some educators, has received scant attention from the schools of engineering. They are, first, the necessity of accepting the responsibility for the improvement of the personal qualities of the student and, second, the obligation to emphasize in the instruction the human side of engineering, that is to say, personal and human relations in their bearing on successful production.

With reference to the first feature, it is interesting to learn from the report that a large number of the successful engineers in this country, in response to a questionnaire, designated as the qualities most essential for engineering success and for the sizing up of young men for employment and promotion, in the order of their importance, character, judgment, efficiency, understanding of men, knowledge, and, last of all, technique. This is significant when one reflects upon the marvelous scientific developments of recent years and the very general appreciation of the value of sound technical training and technical skill. If such personal qualities, which include integrity, a fine sense of honor, attractive personality and tact, are essential to professional success, any school of engineering that ignores its responsibility for the development of such characteristics is derelict in its duty. How this may best be accomplished must be left to the individual school to decide, but at least those responsible for the selection of the instructing

staff can well afford to consider carefully what part the personality of the instructor will play in the development of such qualities in his students.

Probably few would dissent from Professor Mann's view that engineering instruction up to the present time has concerned itself primarily with the laws of physical sciences and the properties of material, with too little emphasis on an estimation of values and costs from the material and especially from the human points of view. That such a relatively small amount of time is allowed in the curriculum to the study and discussion of economic and social questions in their relation to successful production seems the more surprizing when, as Professor Mann says, there is such a "wide-spread feeling that the solution of the intricate problems of organizing and managing men must be intrusted to engineers who combine broad scientific and engineering training with a knowledge and appreciation of men." If the graduate is to undertake such responsibilities with sympathy and understanding, the engineering schools must provide the means for him to obtain an intelligent acquaintance with such problems as the causes of social unrest; the evolution of labor movements; the effect of shorter hours, better housing conditions, better food, and opportunities for amusement and education on the cost of production and the spirit of the workingman; the effect of the bonus system, of cooperation in management, and similar efforts bearing on incentive to maximum output. He should be taught the seriousness of the loss to industry from turnover, from hiring and firing of workmen, estimated, according to Professor Mann, at from $150,000,000 to $400,000,000 a year, and be led to seek the causes for such economic loss and the means for its prevention. He should also have some instruction in acccounting and finance. These are merely the lines along which instruction bearing upon the questions of values and costs in relation to successful production may be developed. Such training, combined with a thoro grounding in the fundamentals of engineering and a strong personality, should

form a splendid preparation for the engineer who seeks, thru a scientific study of the human factors affecting production, to find a wise solution of the misunderstandings and antagonism between capital and labor. The need of men so trained presses, for the war just ended was fought to overthrow political autocracy and to establish democracy, and the workingman is not likely to tolerate in the future any form of industrial absolutism.

In summing up it may be said that the report raises three interesting questions: (1) The possibility of discovering tests for admission to engineering schools that will afford a better estimate of the applicant's abilities and which will react to the benefit of high school instruction; (2) improvements in the present methods of testing technical proficiency which will make it possible to measure more accurately the development of qualities indispensable to engineering success and achievement; (3) the abandonment of the usual procedure of teaching theory before practise and the substitution for it of a method which presents both simultaneously. With the exception of these features, the report contains nothing really new. It does, however, summarize in an admirable manner a large amount of valuable information.

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IV

POST-BELLUM LATIN

Reconstruction after the war will not confine itself to the restoration of all that has been destroyed or damaged, nor to the myriad forms of political and economic rehabilitation in every country involved. The educational world also foresees many readjustments positively required, or at least prompted, by the new situation, and has no desire to blink these facts. Practical wisdom lifts her voice to proclaim that the genius of the new era is to be industrial and commercial; that we must train a peaceful army of civilians to operate our present mechanism of manufacture, trade and transportation with less friction and waste, to invent new processes and novel applications of the old, to expand and enlarge, that the unending war of competition may establish our permanent superiority. It will be easier than ever to decry any study which requires years for its mastery, with the specious plea that life is short, and that those who give themselves to a long course of training with no obviously practical intent, are seeking safe, and relatively useless, positions far in the rear of the army of economic and social progress, as it pushes on over every obstacle.

Some will deplore the passing of the Students' Army Training Corps before the nation had become accustomed to the idea of concentrating its educational resources upon the training of a large body of men to serve its immediate needs. They will argue that this corps furnished, ready to hand, a working model, on whose general lines the higher education of the land might be reconstructed, to meet the economic requirements of the country with the uniformity and thoroness with which the War Department planned to train up officers for the military and naval services.

But complex as are the personnel requirements of a modern army, the requirements of civil life are vastly more complicated, demanding much greater diversity of gifts and attainments. No peace army modelled upon the training so recently introduced for the youngest classes under the Selective Service Act, could be successfully produced, even with the best efforts to convert courses on the Issues of the War into permanent courses on the Issues of Peace. Even assuming that the whole framework could be so enlarged that all essential vocations would be provided for, the very idea of a national education so completely centralized and so minutely regulated would be resented in time of peace, as something essentially Prussian, already condemned in advance by the failure of most things Prussian. Loyally submissive we have indeed been, in a degree little short of miraculous, to the draft and all the other exigencies of war, only to revert, with the return of peace, to our insistent demand for the fullest freedom to choose the individual career. Somewhat chastened may be that love of freedom, after these eighteen months of a discipline of which few had thought us capable. It will bravely assert itself, however, against any attempt to make college studies revolve in a narrow circle, officially described for us by some would-be *Kultusminister* at Washington.

For the defense of the broader field, all who have faith in the wider sweep of training must now take their stand together, or they may be thrust aside by mere weight of numbers. Every study will have to prove beyond a doubt that it does contribute in some appreciable degree to the all-essential product,—a younger generation trained not only for the manifold tasks which have been performed by their elders, but also for all the new types of duty daily emerging. Some branches of learning which till recently insisted, to small visible effect, upon their utility, will have no need hereafter to recommend themselves. Unlistening ears have been opened to hear the claims of French and Spanish, until further pleas have become altogether needless. German, on the other hand, will have much lost

ground to recover, while blind prejudice slowly gives way, as we begin to realize that we can not wisely remain ignorant of the language of enemy or arch-competitor.

Ancient languages would appear at first sight more than ever upon the defensive, while time is being found for more intensive cultivation of the modern. Yet not a few facts will conspire to place Latin in a new and more favorable light. The need of Romance languages for ends both practical and cultural will react in emphasis upon their mother tongue, as most vital and helpful to a real understanding of her daughters.

More important still, we have not borne our share in an epoch-making victory without realizing, many of us, that the triumph of the allies is in fact the culmination of a life and death struggle between the old civilization inherited from the Romans,—a solid foundation of law and order and international rights, laid down by Roman hands,—and, on the other side, a new fabric, founded upon physical might, and buttressed by commercial and industrial expansion,—a reckless and ruthless survival of the barbaric, newly fortified by all the military and economic defenses of the day. The Teutonic children of the primeval forest, massing upon the Rhine frontier, to descend upon the coveted lands and flourishing cities of Gaul in disordered raids, had become by 1914 a mighty organism, equipt with every conceivable means of conquest, embarrassed by no doubts as to the superiority of matter to spirit,—a far greater menace to civilization from the very fact that it claimed to be spreading a new gospel, so unique that mankind would in the end forgive any savagery required to establish a supreme and ultimate world-order.

The causes and issues of the great struggle now happily ended will long remain in the forefront of historical and economic studies. It must be made increasingly apparent that what the allies and their transatlantic co-belligerents have stood for is the defense of a common inheritance,—the Graeco-Roman civilization, spiritualized by Christianity, renewed, invigorated, chastened by Renaissance,

Reformation, Revolution, and more than all, we have every reason to hope, by the great conflict now brought to a triumphant conclusion. It must be clearly shown that the ideal has been able to triumph over the material largely because of a common basis of spiritual heredity, often lost to view in the past, but henceforth never to be forgotten.

In the perpetuation of the consciousness of that heritage an obscure, but not altogether negligible, part has been played in the seclusion of school and college classrooms, where the languages of Greece and Rome and their literary masterpieces have been taught and interpreted, sometimes, in the light of modern thought and life. It will at once be conceded by many teachers of these subjects that the mode of approach to them must now be changed, if they are to keep in touch wherever possible with the busy life outside of academic groves.

From the very beginning it must be made plain that the goal is not mental training simply, nor a speaking acquaintance with a few celebrated writers, ignorance of whom has hitherto argued absence of opportunity or indifference to literature. Without depreciation of the modern, without excessive veneration of the ancient, the aim will be to give a right sense of perspective, a true appraisal of the permanent elements of the old Graeco-Roman civilization, as they still continue to function in the culture and humane ideals of today.

The victory of humanity over *Kultur* in a conflict which has been fought out on so many ancient battlegrounds makes it possible to approach the leading classic writers in a new spirit, with fresh stress upon content, with its interpretation as related to the modern world, and a more enlightened and unpedantic study of the form. Much can now be done to vivify the teaching of Caesar, when every pupil has scanned the map of France almost daily for upwards of four years, and the smallest newspaper familiarity with modern military operations makes it easy to understand the less intricate strategy of Caesar and his generals. Those who have had before the mind's eye the spectacle

of France resisting the invader, will better appreciate the struggle of the Gauls to remain their own masters, especially if the personality of Vercingetorix is brought before them in judicious selections from the 7th book of the *Gallic War*. Moreover, teachers who have been themselves stirred to the depths, will no longer fail to supply the other side of the picture,—a later Gaul, now permanently united and prosperous, under Roman rule, to be sure, but accepting this dependence with pride, as the *sine qua non* of recognition within the pale of civilization,—a Gaul that preserved many precious Roman legacies thru darker days, and thus rose again to the front rank of national greatness, and now, before our own eyes, to the highest plane of moral grandeur. Caesar's Gaul will be forever linked with the France of Joffre and Foch. And in college, as well as in school, Latin will now be taught in much more direct connection with French,—an obvious gain to both departments, once these needless hedges have been swept away.

For the first year of Latin study in college, most institutions, tho greatly reducing the time given to the subject, and then abolishing the prescription altogether, have still left the traditional choice of authors unchanged, almost, if not quite, as they were a half-century ago, when the student continued the subject thru three or more college years. A certain sequence of texts supposedly suited to freshman year still remains almost everywhere, and few experiments involving radical change have been attempted. It has been a scholastic tradition, well adapted to those, no longer a majority, who come to college with a literary or scholarly background. But an immediate change is now in order, that we may reach more varied elements, and may supply directly what has been too much taken for granted heretofore,—a justification of the study in terms comprehensible to the average man.

To take up Livy, for example, at the beginning of freshman year is to present an author whose picturesque style is usually appreciated only in maturer years, so that his altogether admirable form makes no real impression upon

those who must needs read in painfully short instalments. And his subject matter, whatever the particular selection, seems to the student very remote from present-day interest. The tales of Romulus, Numa and the Tarquins, as thrilling stories, would be far better appreciated by younger pupils, provided they were able to read them. If tales of early Rome are discarded in favor of sober history of her maturity, it is usually found that Hannibal's crossing of the Alps, his victories in the fog at the Trasimeno and in the dust of Cannae, seem scarcely less dim and distant,—epic episodes, wasted for the most part upon those who have no taste for epic, whether in prose or verse.

For firm believers in the future of our Latin civilization it would seem highly desirable at this time, when the great issues of the present have made the past more vital than the care-free undergraduate of yesterday imagined it, when youth has suddenly matured and thoughtlessness is no longer to be accounted almost normal, to frame a course of Latin reading such that the most careless could not fail to see that he is himself heir to a Roman patrimony,—his undivided share in a great body of institutions, principles, ideas, forms, letters and arts, which can no more be separated from the genius of antiquity than from the civilized life of today.

The freshman of tomorrow, prepared for college during the fierce struggles and overwhelming victory of the old civilization, has reached a maturity, a range of vision, a knowledge of a larger world, far beyond that of his elder brother in his *ante-bellum* freshman days. Hence it is essential that mere docile acceptance of traditional pabulum be no longer expected of the student entering college. He will think for himself and with good reason demand that his first-year studies be not wholly disconnected from the world which lies around and before him. Historical courses, not excepting ancient history, must converge in a perspective whose vanishing points lie in the more or less immediate future. Ancient languages and antique authors

should in the same way lead the student thru a long vista of the past into the living present.

To many it will seem grotesque and fantastic to speak of Latin as a study which may make a vital contribution to the new intellectual order. Nevertheless what has not been accomplished with much success in the last two generations may perhaps be achieved at no distant date,—the awakening of a more general consciousness that the world of human institutions as we ourselves know them is, in its most substantial and enduring parts, a Roman fabric. Such consciousness, once awakened, will bring new life to the study of the language and letters, history and institutions of Rome, as also to the whole Romance field. And unless new life animates classical studies, they are certain to be past by as moribund by those who return from active service in any form to their books, as also by those who now enter college from the preparatory school. It is useless for classical teachers to bewail and do nothing. Many of them have discovered undreamed-of usefulness in contributing some kind of service to their country at war. They must now show that they are no less needed where they were, before our entry into the war, by bestirring themselves, not in acrimonious controversy as *laudatores temporis acti*, but in wisely recasting their methods on a generous human scale.

Certainly it will be well to begin the college Latin course with something new and fresh, something large in scope, meeting the modern student half way, if possible,—some link with the western provinces, the cradle of modern life for the countries with which we are most concerned. Are not Roman Gaul, Roman Britain, Roman Germany admirable starting-points for the student who has already gained some partial knowledge of Roman conquest beyond the Alps in Caesar, some conception of the glorification of Italy and Rome in Vergil and Cicero?

An open door into the Roman history of Britain will be furnished by the *Agricola* of Tacitus, incidentally the best of Roman biographies. If Tacitus, even in the minor

works, be thought strong meat for freshmen, it is certain that for a time at least, we shall have maturer freshmen, who ought not to be kept upon a milk diet. More help from the instructor may be needed to smooth the way, but this will be no disadvantage, for the student will inevitably discover that everything turns upon the mode of attack, and that special tactics are necessary in dealing with this particular author. He will be compelled to make a complete break with the mechanical methods he may have brought from school, and concentrate upon the grasping of crisp phrase and pointed clause, just as they come, with no shifting of order. It will dawn upon him that there is an art of catching the sense of each word-group in succession in a provisional way, and that with these thoughts clearly in mind, translation of the whole sentence becomes the final step in a game of skill,—not the blind puzzle he may have thought it at first. Once accustomed to these tactics, he will no longer be baffled by bold ellipses, and other surprizing turns, having learned to catch hints of meaning exprest only in part, and then to combine such outline suggestions into a complete picture. A writer of such power, of such personal force, with a style so unique, will be a novel experience, challenging the best response from the student, who is slowly awakened to the beauties of Livy's more orderly sentences and their rich coloring.

It is not meant that a freshman Latin course should be converted into lectures on the Romanization of Britain, loosely hung upon the *Agricola* as upon a peg. Too great detail in the study of provincial organization, or the history and civilization of the island during the Roman period, would be most unwise. But without departing too far from the historian and his worthy father-in-law, the governor of Britain, it is easily possible to throw a broad sun-track across waters usually unillumined for the student voyager.

From the *Agricola* he may pass on to that other pamphlet, the *Germania*, a text of as vital importance for any subsequent study of English Constitutional History as

for the annals of the later Empire, of Germany or of France. Here again the students' difficulties in dealing with terse sentences shot thru with poetic imagery can be greatly lessened by teaching the psychology of translation, and by interpreting the poetic dress which clothes or cloaks the writer's thought. Certain chapters of tribal detail will be omitted, as usual. But even selections from this capital document of medieval history are capable of making a life-long impression, if the book is handled both as a brief work of the highest literary art, and as a connecting link in which the Roman observer and administrator meets the world of today, far beyond the Rhineland, in fact wherever Teuton and Saxon have carried their institutions and their tongues.

To establish still further contact with Latin civilization, as it prevailed over barbarism in the west, the remainder of the first half-year in our proposed freshman course may be devoted to a striking, but generally neglected phase in the Romanization of Gaul and the Rhineland, as throwing light upon the whole relation of conquered provinces to a central power under which they chafed at times, but from which they could never really bring themselves to break away. A short-lived Gallic Empire, set up by revolted Gauls, with the support of disloyal legions, just when a Batavian had stirred the Germans to rise against Rome in the throes of civil war, and at the mercy of its own rival armies, on the Rhine or the Danube, or in Syria and Judaea,—all this makes a stirring page in the history of a fevered period between Nero and the Flavians. The whole story, as told in the fourth and fifth books of the *Histories* of Tacitus, is too long for such a course as is here outlined, but the most significant parts could be grouped together, with omission of much marching and counter-marching, and of minor engagements. And from such a selection, as brilliantly interpreted by Camille Jullian in his *Histoire de la Gaule* (Vol. IV), the instructor could not fail to give his pupils a new conception of the hidden causes which perpetuated the relation of the Gallic provinces to the capital, in

bonds of imaginative veneration. Time might be found to read a few other specimen pages from the *Histories*, as that which recounts the burning of the Capitol,—an ominous event deeply impressive to restless spirits in the western provinces; or the sack of Cremona, with its reminiscences of Vergil's Troy in flames.

A half year spent in this excursion into Roman Britain, Gaul and Germany, under the guidance of the most original master of historical prose, can not fail to leave its permanent mark upon minds now more than ever open to impressions of human conflict and the drama of nations.

For the second semester symmetry has usually dictated the choice of poetry in place of prose. But if the broadly historical outlook of the previous term is to be carefully maintained, as surely it must be maintained, then poetry too must be so treated as to stimulate the historical imagination, and the ancient world still more closely linked with the modern thru its poets. If a single poet is to be chosen, it should be one who can most vividly and completely picture for us the central period of Roman life and letters. Still better if he can present in his own personality the perfect image of sanity and urbane worldly wisdom, and speak with no distant voice out of the far past, but as the contemporary of every age. Horace must now be interpreted, however, in a different spirit, suited to minds less boyishly immature, minds that have past beyond the familiar horizon of other years, as the sense of a world in convulsion has widened their range to include other peoples and other tongues, and to seek out causes in the past. They will be less prone to turn away from a classic ode, as something served by mere convention at the academic table d'hôte. And the course will now include, along with odes which have been the favorites of centuries, at least a few specimens of the *Satires* and *Epistles*, to reveal the keen observer of human nature, the genial friend of so many generations, the sage of the Sabine Farm. Some time will continue to be found for the simpler poems of Catullus,

preferably at the very beginning of the course, as a taking introduction to the less limpid lyrics of Horace.

But reluctant as we may be to reduce the time given to Horace, the intimate companion of men of action, men of letters, men of every taste in every day from his own to ours, it may be possible to plan a course for the second semester more in keeping with the purpose of the first half-year, and more fruitful in the permanent interest of the larger number. This would be an anthology of Latin verse, from the *Moribus antiquis res stat Romana virisque* of old Ennius to the *Dies Irae* of Thomas á Celano. It would of course include a few immortal passages from Lucretius, the most memorable of Catullus' poems, a generous selection from Horace, who would furnish the center of gravity of the course, if treated as suggested above; also the best of the *Eclogues* and some famous passages from the *Georgics*, something of Ovid, Tibullus and Propertius, with representative verses of Seneca, Martial, Juvenal, and selections from later poetry, such as the *Pervigilium Veneris*, and on to Boethius, and beyond into the popular Latin poetry of the Middle Ages. Such an anthology is ready to hand in the very tasteful book, *A Selection of Latin Verse*, edited a few years ago by the classical staff of Williams College, but it can be enlarged at discretion by incorporating other material into the course. Care would be taken to prevent the separate pieces from becoming a mere string of pearls, with no special thought of historic relations. Few could read such a series of selections, covering fourteen hundred years, without being imprest with the longevity of Latin poetry, with its refusal to be confined within the limits of the ancient, and with its widespread influence upon the intellectual life of modern times.

Thus by the end of the first year our freshman will have had two very different courses, bound together by a common purpose, each of them in its own way full of stimulus to the historic sense and to appreciation of the sources of much that is best, most inspiring and most permanent in modern life and letters. He will have no excuse for regard-

ing Latin as a dead issue, her celebrities as white busts down the dreary length of a frigid gallery.

To bring our field into closer touch with that of our Romance colleagues will be a matter of fresh importance, and in most institutions such an entente will be very readily arranged, with the result that Vulgar Latin will be taught as the link—sometimes thought of as missing, and usually as negligible—between the Roman and the Romance. And courses in late Latin and medieval authors will furnish another bond of union between departments which still suffer much from misplaced walls and fences. For a Latinist of Romance leanings it is difficult to imagine a greater pleasure than to offer a course in such a work as Boissier's *La Fin du Paganisme*, with parallel readings in the writings of Symmachus, Ausonius, Augustine, Prudentius, and the rest, as they are analyzed and criticized in those brilliant chapters.

Thus both on the linguistic and on the literary side much can be done to bring Latin into closer contact with modern studies, by annexing and establishing a prescriptive right to some corners at least of the sadly neglected medieval field. It is, however, imperative, that we sacrifice much that is in itself good, but ineffectual, in our present offering of courses, and reorganize the whole, avowedly animating it with a new spirit, inspired by consciousness of a larger unity, binding the intellectual life of today, in spite of its immensely extended range of interest, to the thought and feeling of old Rome, as the hearthstone of western civilization, which in its turn has never been more truly indebted to the unifying classic influence and the common Latin inheritance than at the present moment, when the engulfing tide has once more ebbed away beyond the Rhine.

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V

THE HUMANITIES AFTER THE WAR[1]

I

Napoleon wrote the epitaph of the eighteenth century, the age of artificiality. The war now ending is writing the epitaph of the nineteenth, the age of boasting. This period of vast achievement was, as Frederick Harrison showed, the age of confident self-laudation *par excellence*. With characteristic aggressiveness it pushed over a bit into the twentieth, and perhaps for its presumption has been violently stopt by a war waged with the very implements it had forged and labelled with the stamp of progress.

Amid its manifold activities the most vigorous intellectual impulse was science, at first mainly in the form of knowledge as such and later more notably in its myriad applications to human use. By this practical development, which grew in strength as the century advanced, the material side of human life was enriched as never before, and science, whether pure or applied, so long as controlled for human welfare, conferred enormous benefits, and if morally uncontrolled, as of late, wrought fearful evil. In the latest perversion of its true use all the three major sciences have been dragged into the service of death. Physics, with chemistry helping, gave us the submarine assassin, chemistry the murderous gases, and biology furnished germs to poison man and beast in Roumania. Yet these things, devilish as the uses to which they were put, were not in themselves necessarily evil. Conceivably they might have been used for commendable ends; the anthrax germ as an antitoxin, the murderous gases to destroy vermin and the submarines even to transport missionaries. It is clearly seen that the imminent danger of their misuse lies,

[1] Read at the Annual Meeting of the Association of American Universities, with the British Educational Mission, at Harvard University, December 5, 1918.

not in science, but in the motive which prompted the misuse by making such devices easily available in the hands of unscrupulous men or nations. The execration of mankind has fallen justly on those who thus misapplied applied science, and a clamorous demand is also justly made that it shall henceforth be applied only to humane ends, for the reason that when applied to inhuman ends it becomes the hired accomplice of immorality. It is a dreadful fact that while the guilt of introducing this misuse in the world war rests on Germany, the leader in applied science, our side has been driven to use some of these agencies in retaliation. Applied science has thus readily furnished mercenaries to either side. Its devices have been for sale to any buyer. But as honor and decency are things not for sale, it is not surprizing that men are now incredulous in regard to the dependability of science taken alone by itself, especially of applied science, as a safe moral factor in education and in the resultant civilization for which education prepares.

Is high intelligence separable from honor and decency? The Greek thinkers said No. Recent German thought says Yes.[2] There is no need to argue in this presence that while there are notable instances of high intellectuality combined with low morality and altho exemption from moral restraint has been at times supposed to be a necessary condition of intellectual freedom, men of high intelligence and low morals are nevertheless dangerous to human society, persons to be watched rather than trusted, persons whose dangerousness is intensified by their degree of intelligence, and who should therefore be socially and educationally reprobated or at least interned. And in this time of the world's trial there is no need to argue that governments or nations of this high-low type can not be trusted in the family of nations. All the proof we need is to be found in the undeniable fact that when trust vanishes, civilized relations collapse. And we must have a civilization which

[2] For a lucid and complete review of this question see Emile Boutroux's Oxford lecture on The Relation between Thought and Action, Clarendon Press, Oxford, 1918.

is not collapsible. Whether or no decent morals are essential to high intellectuality is therefore a question of little importance compared with the fact that human behavior resting on decent morals is essential to the world's safety.

Can education in science, considered by itself alone, and especially in applied science, be surely depended on to foster this humane behavior in men and to ground it, not on considerations of mere convention or expediency, but on honor and decency? The war has answered this momentous question in the negative. While not at all a condemnation of pure science, but of its abuses in application, it is nevertheless a demand that in all its uses it shall henceforth stand always as the ally and never as the enemy of man's moral welfare.

There is some hard travelling to do before this end is reached. To begin with, science will need to be taught purely as science, without admixture of other things. Otherwise its true nature is obscured and men will be misled as to its meaning. For example, applied science has lately been entangled at times in serving sordid purposes, so that its own freedom as science has been hampered and its beneficial influence impaired. To make industrial processes scientific is a most worthy end, but to commercialize science is to degrade it. The two have not always been distinguished. They must be distinguished if applied science is to be the best applied science or is to remain science at all.

Pure science also has been at times entangled in extraneous things. Take an example from biology. "The strong must survive," "the weak must perish," "it is the law of life," "Nature heads up things in an autocratic way," "war is a normal condition for a nation seeking to realize its own life," "war is a biological necessity,"—such are the utterances of German thinkers. But this is not biology proper. It is biology infected by a delusive theory of human society and leaping to the inference that the law of the jungle is of course the law of the home, the community

and the state. It is one of the main causes which has provoked the extreme and angry answer of socialism. For biology, then, as pure biology and the mother-science of medicine, the champion of the weak, serving humane ends and itself uncontaminated by any infection, a broad road is open to endless beneficent progress. If that road is missed, some devious way must be travelled.

Given, then, science as science, true to its own standards, debased by no sordid use and mingled with no alien substance, its real function as an educational subject of immense value becomes clearer. It is to acquaint man with the truths of nature and the beneficent uses these truths may serve. It thus becomes a question of high importance as to how education in science, especially in the earlier formative stages, may remain purely scientific and may at the same time help in developing its students humanely and morally. This importance becomes clearer, both because of certain considerations external to science and because the chief object in the earlier formative teaching is not the development of science, but the development of the student. The other comes later. It is not too much to assert that when science is first studied by these younger students, not as the analysis of developed modern results, but as the historical panorama which shows definitely the successive stages of its development by human discoverers who were benefactors and even martyrs and heroes of mankind, it is science thus studied which is most likely to show then how it actually came to be what it is, to yield knowledge in vital form (so to speak, in its "nascent state"), to waken livelier interest, to show its importance as a part of human experience, and to reveal science in its grandeur as an ever-growing power for human welfare. If our youth start in science the other way, the humanizing and moralizing value is apt to seem remote, intangible and even unreal, and the importance of guiding all scientific applications toward beneficent ends is not so likely to be suggested, much less to be obviously implied.

Take another point. To put the right thought in the

right words is admittedly a mark of the best teaching. So long as language is the one general instrument of thought, as it has been since civilization began and promises to be so long as civilization lasts, its necessity in teaching science and everything else is self-evident. In view of this it is appalling that many of our teachers, some of them in universities, are in a sense illiterate. They can not use language well and therefore lose power to teach adequately either in the classroom or in their writings. Specialization without a good literary training has more and more restricted them in power to say well what they think. Lacking literary vision or assured mastery of English, they are forced to talk almost entirely in the dialect of their specialities. Anyone who is acquainted with our doctoral theses, especially in applied science, knows how serious this illiteracy is. And it is utterly foreign to the nature of science. Of course the needed technical terms must be used to tell what only technical terms can state. But this should be the limit of such usage. It has been fearfully overdone. If it sufficed a Newton to define the atom as "the least part of matter" (whether rightly or wrongly is of no consequence here), our writers may well follow his lead and use plain English for all plain English will say. It will add to their ease, freedom and human tone, besides making their statements less involved and more attractive. Their writings will then have a better chance to be read.

II

What has all this to do with the educational future of the humanities in our land after the war? Much in every way. I have taken the instance of science because it is so conspicuous just now, because it is so important and because there are many who feel that a training in science, especially in applied science, is a sufficient basis, perhaps even the main basis, for our coming education. I have tried to show that science does better as a humanizing and moralizing force in education when it uses the helps of history, language and literature in order to make its appeal to

young students more fully human, and that without these valuable contacts it loses much of its persuasiveness in teaching and the vivid sense of its neighborhood to other fields of knowledge.

What of our coming education in the humanities themselves? and especially in language, the instrument of man's thought, in literature, the mirror of his moods, and in history, the record of his deeds? They, too, will need to be resolutely true to their own function, which is to acquaint man with himself and with all the benefits this acquaintance brings. Some think it is a useless training, something intangible and unpractical, or at best a pleasant accomplishment rather than a solid attainment. Yes, it is intangible in a way, yet not more intangible than the sense of justice, truth or freedom. And it is perhaps unpractical for many of the quick and obvious utilities. But what of the greater utilities? Was it useful to the world in this war that the swiftest voluntary response to the first call of freedom came from the colleges and notably from the older homes of humanistic studies? Some may have thought these playful, care-free fellows did not know very well how to live, but at least they have shown that they knew how to die. Their education, science included and the old humanities included too, and not some military or technical training, is what their letters told us was a preparation which stood them in good stead. Has the war given us any reason to doubt the worth of their training? Has it not rather emphasized it? The example of such men indicates anew that the value of the humanities, like the true value of science, is to be tested by their fidelity to their proper function and by their wholesome results in human life.

As for our own language, it seems needless to say it should be well understood and well used as our chief instrument of thought. The war properly adds the demand that it shall be the sole language in our primary schools, and shall thus become a stronger unifying force in our nation and a stronger bond of union with the whole English-speaking world. The better unification of English

itself would be another great help to this end. And if it is impossible or for any reason inadvisable to obliterate regional or social variations, at least those who call themselves educated could strive to lessen the difference in their own usage and thus gradually establish a better common standard. For if educated English speech, here and the world over, shall become very nearly one, its influence will spread widely thru the thousand utterances of voice and print and good English may yet become the common English of the world.

How shall this be promoted in the schools? Some say "By studying English alone." There are cases where this result has happened. But they are few in number and prove nothing for the mass of students. The fact that a boy does not or will not study a foreign tongue does not prove him another Lincoln. The war does not alter this. Nor has school-study of modern languages coordinate to our own produced an appreciably better use of English. It has oftener disfigured English with strange locutions. The war has not helped to remove this difficulty. The fact that these valuable modern tongues are coordinate and not fundamental to our own is the important fact which can not be ignored in this connection. Brothers and sisters do not get their fundamental traits from each other, but from their common ancestors. We need not, then, be surprized that the teachers of English and of modern languages generally tell us that the best way is to study the classics. Our latest school and college records confirm this as a fact, a fact no more likely to be changed by the war than the fact that mathematics is a fine preparation for physics and history a fine preparation for political science. In regard to the modern languages themselves there is a marked change due to the war. The available facts indicate that German has lost fully three-fourths of its students, French has gained strongly and Spanish substantially. That America will perfer French, as she has preferred France, may be expected. It is not likely that German, which had been artificially stimulated anyway,

will regain its former importance. It is too early to say whether the large gain in Spanish will increase much more. Of the classical languages Greek is gaining a little here and there and Latin is gaining considerably. The main trend is toward the closely related Latin, French and Spanish—to name them in the order of their total enrolments. It should not be forgotten that Latin actually has more students than are found in all the foreign modern languages, and that this leading position has been strengthened by gains made since the war began.

The war has also called new attention to the classics as a fundamental linguistic, literary and historical bond of Western civilization. The continued effort of the Kaiser thruout his reign, now closed, to hack and hew this old bond in the interest of a nationalistic Kulter released from international ties has been the most marked feature of his educational Thirty Years' War. The war also reveals France as standing against him in this. The stirring address of LaFerre,[3] Minister of Public Instruction, delivered at Montpellier six days before Foch launched his counter-offensive, shows how ardently France cares for the old humanities, and all the more when the Germans are close to Paris. The situation reveals two warring tendencies: intolerant nationalistic unity and tolerant international community. Whichever of these is best for the world will naturally be best for our coming education. There is no middle theory to take,—nothing but evasive compromises. Is there any good reason why America should not stand here with France? and with England? and with all who believe in an educational League of Nations to uphold humane studies? With the persistence of separate languages and nationalities, and the addition of new nations, all needing strong common bonds, the need for a common humanistic element of union will increase.

A word is in place as to the need of teaching literature as literature, not as anything else, and of teaching it humanely and nobly. Thus in teaching an author the real object is to

[3] Translated in the New York Evening Post of September 21, 1918.

introduce the student to the author. If anything pedantic, mechanical or extraneous interferes with this, the student is ill taught. If taught as "the criticism of life" (only one of its phases), it deteriorates into cheap philosophizing, whereas, when viewed as the picture of life, it has a chance to reveal all its values. When infected with the germs of social decadence, it becomes poisonous. Our literature, thanks to the war, is now somewhat cleansed. A lot of bad books are suddenly out of date. The finer aspects of life, now vividly in view, suggest that a better understanding of the nature of literature is desirable. The demand is heard that oddity or caprice shall no longer be taken as evidence of genius, that literature shall be nobler in its bearing and that the "golden mean" of the masters in expression shall again be the Golden Rule for style. It may even be that Plato's canon of the true, the beautiful and the good will again become the canon of letters and of art also. If so, a better age is dawning. It is devoutly to be hoped that our schools will be conducted in this spirit, and down to the last details, so that, for instance, even our school readers shall generally be worth reading.

Our third study is history, a momentous subject by itself and more so now because of the flat contradictions we have met in regard to recent events of the first importance. History is the recorded memory of mankind. It is experience teaching—and teaching now. What our personal memory means to us, history means to the civilized world. It is still true after the war, as before it, that a boy without a memory can not be educated. It is hard to believe any school-study is of greater consequence. If the war teaches us anything about historical teaching, it teaches that we need to know the record of what has happened. We must therefore, first of all, learn history as history, not as politics, not as philosophy, and not as science. If the accounts are in conflict or are otherwise unreliable, we must know what the existing accounts are before we can judge them. Their value to the young student therefore lies in allowing him to read the story of the past as the writers told it and

not as altered by editors. Such records, with the originals unaltered, in spirit at least, when summarized in text-books, compends and compilations, are the only safe provisional basis for later judgment. The necessity for this is forced upon us by the fact that history has been falsified at times by writers who are so anxious to "see things as they are" that they can not see things as they were. This is not the limit of the evil, because some of them unconsciously or consciously see the past mainly as colored by their own political or philosophical prepossessions. This has been notorious for the last generation in Germany. So let the new "science of ancient history," made in Germany, furnish us an example. In his *Vergangenheit und Gegenwart*, published the year before the war, Wendland thus explains what Philip of Macedon did to Greek democracy:

"It is now common knowledge how Philip consolidated his state, kept his dangerous northern neighbors in their proper territorial limits, created a citizen army of his people and an officers' corps of the nobility * * *. The temperate and careful character of Philip's dealings with the Athenian Demos shows that he pursued no ruthless policy of aggrandizement. * * * * This serves admirably the purpose of training one in political thinking, helps to guard against the influence of trivial talk about morality and politics, and makes one realize that such a conflict can not be settled by international arbitration. It should be emphasized that Demosthenes was actuated in his condemnation of the enemy by motives of patriotic hate. Furthermore, one should strongly emphasize the superior merits of a thoro system of monarchial government and of military discipline."[4]

There is more; but this is enough. And this "thinly disguised eulogy" of Prussian imperialism is put forth as history: For "Philip" read "Wilhelm" and for the "Athenian Demos" read "France." What more cogent reason could we have for insisting that in our education the records

[4] See Professor Knipfing's article on The War and the Teaching of Ancient History, p. 301–302, Ohio History Teachers' Journal, March, 1918.

of history should be allowed to speak for themselves and that no one who falsifies their meaning shall be known as a historian? Is it trivial to talk of morality in connection with politics? So this writer thinks, and thus reinforces our conviction that the teaching of history, like the teaching of anything else, when it fails to respect moral standards is dangerous to civilization and also fails to give assurance that it is genuine history.

III

Language, literature and history—the three primary humanities in education and the sources from which the other humanities spring. Science also, using their light as a help in teaching, finds its own distinctive truths more readily understood and exerts fuller power in a humanistic way without losing a particle of its scientific integrity. There is one more of the humanities—behind them all and connecting them all, the study Aristotle called "the only liberal science"[5]—philosophy. Here again the war has opened a new volume. The divorce of thought and action, and the cynical atheism built thereon, we may now hope will be regarded not only as immoral, but as irrational. If so, philosophy will again become a great blending and ennobling power in our university studies.

In conclusion, then, does not the war teach clearly that education in the humanities, when true to its own type, is an integral part of the history of human freedom? Wherever they have been mechanized, their spirit has been cramped. The classical education of Germany was rigorously thoro. Yet it often missed something which enlightened the schools of France, Great Britain and America. That something is what makes the difference between mechanical precision and the joy of life. A plant prest in a herbarium may keep its outline, but it will not live. The indestructible value of the classics for American schools and colleges is not as science, but as humanism.

[5] Metaphysics, I, 2.

There is no time here to go into the vital question of what shall guarantee the nobility of our teaching by making primal moral truth the basis on which it shall rest. Science and the humanities and philosophy, truly taught, are certain to suggest this guarantee, but are not enough to secure it. They may be made a help toward virtue, but are not virtue. They may also be misused for inhuman ends. Is any lesson of the war clearer? Will democracy of itself secure it? It may help—but will it help enough? There were old democracies, sometimes noble, sometimes cruel as autocracies. The Athenian treatment of Melos was like the German treatment of Belgium.[6] And what of Russian democracy now? Will it tame the wild beast in man? Will vocational studies suffice to save us? Some seem to think so. Yet they overlook the plain fact that to send our youth into vocational studies alone is to cut them off from their just chance for knowledge, to condemn them in advance to industrial serfdom and to create a huge proletariat of discontent. Will the newer psychology help us with its insistence that mental discipline is absurd and injurious and that no student should have to study a subject he finds "uninteresting?" Will this enfeebling sentimental theory be useful in the moral crises of life "when Duty whispers low, Thou must?" Will money, place and power, held up as goals of education and consequent goals of social endeavor, help us? The war has wrecked such theories. What else is left but the Golden Rule of Christ?

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[6] Thucydides, V, 84–112.

VI

DISCUSSIONS

THE JUNIOR HIGH SCHOOL

Our American neighbors have greater local freedom and less state supervision of city schools than we have in Ontario. This local freedom may have disadvantages, but it has some compensating advantages. One of these is the ease with which they may try out experiments. Perhaps the most interesting of these now under way is the Junior High School, which has past the stage of early experiment so far as to be fully organized in a dozen or more American cities. In some cases new buildings costing a quarter of a million dollars are being erected to accommodate this particular type of school. It can be studied in three cities close to our own Province, *viz.*, Rochester, Cleveland, and Detroit.

The origin of a new movement may be found in some defect or imperfect adjustment in existing institutions. The junior high school is an attempt to cure two school evils, one belonging to the elementary and the other to the high school. Every elementary school in a large city has as one of its chief problems the failure of twenty-five to forty per cent of its pupils to complete the school course before reaching the legal age of freedom from school control, and every high school is hampered in its legitimate work and unprofitably expensive in its management because it loses such a large proportion of its pupils one or two years after they enter and before they have completed any course of study or received any benefit from the school proportionate to their own loss of time in attendance or to the money spent by the school authorities in providing for what they are unable to use. The junior high school aims to provide a course of study for these two classes of

children—the senior classes in the elementary school and the junior classes in the high school—which will be so exactly suited to their individual needs that nearly all of them will complete it. If this aim can be realized the school life of the child in the elementary school will be prolonged and enriched and the regular high schools will be relieved of a large class of pupils who under present conditions reap little benefit from the school, but make enormous demands upon the teaching staff and add greatly to the expense of the school.

Generally speaking, the junior high school provides a three year course covering the last two years (grades 7 and 8) of the elementary school and the first year of high school. This allows the regular high schools to plan a three year course instead of a four year course. What advantages can this junior high school offer boys and girls of twelve years or over who have completed grade 6 as compared with the advantages of an ordinary elementary school having eight grades? The first advantage claimed for it may be called a sentimental one. That it is largely such makes it none the less real, because after all with most of us sentiment plays a larger part as a motive to action than reason does. The claim is made that a twelve or thirteen year old boy or girl ready for grade 7 looks upon his promotion to a junior high school where he will be wholly removed from the younger pupils as a more important event than merely being moved to a senior grade in his former school. His parents and friends take the same view and determine that he shall remain three years at the new school and finish the prescribed course. Untoward circumstances may prevent him from carrying out this plan but the chances are that the resolution to do it does something to lengthen his school days.

But the plan must have more to recommend it than mere pride of promotion to a new kind of school. The major advantage claimed is that by having a large number of adolescent pupils in one school it is easy to plan courses of study that will appeal to their individual needs. The

usual plan is to provide three partially diverging courses of study. Perhaps nearly half the pupils entering the junior high school course plan to complete it and then take a further course of three years in a regular high school. For these pupils their course while in the junior high school will not differ materially from what it would have been under the old plan. They take what is called the academic course. They have no more manual training or domestic science than is given in the old type of school in classes of their grade. They aim at securing a broad foundation for a general education with the emphasis on the literary subjects. They will probably begin the study of Latin or French a full year earlier than pupils who enter a regular high school after completing grade 8 in a regular elementary school. The remaining half of the pupils beginning the junior high school course will be pretty evenly divided into commercial and industrial groups. Few of those taking either of these groups hope to extend their formal education beyond the three years of their junior high school course. Either thru choice or necessity the business and industrial world is calling them to recruit its ranks. They must make the best possible use of their three years, partly by broadening their general education, especially in English, and partly thru vocational work that will bear directly on their future occupations. The commercial course pupils will aim, especially during their last two years, at a thoro mastery of business English, penmanship, shorthand, typewriting, and some knowledge of accounts and commercial geography. A few of them are looking forward to an extra year in an advanced commercial high school. The industrial pupils, in addition to improving their English, and arithmetic, expect to secure thru actual shop work a superficial acquaintance with general industrial activities and a working knowledge of one particular industry. For girls the industrial course includes cooking, plain sewing, dress making, millinery, and laundry work. For boys it is usual to establish well-equipt shops for plumbing, machine shop practise, painting and decorating, printing, forging,

moulding, cabinet making, electricity, and sheet metal work. The "industrial" pupil spends at least half his day in shop work. If a girl she takes all the courses provided in household science. If a boy he will probably spend an hour and a half a day for six weeks in one shop and pass on to another. At the end of his first year he has a speaking acquaintance with the work of some five or six shops. He now chooses the one that seems to suit him best and for the remainder of his course during a part of every school day gives his whole attention to that shop. At the end of his course, while not a skilled mechanic, he is in a position to make rapid progress in a shop and to earn self-supporting wages as soon as he enters one. He begins his life in the industrial world with his eyes wide open, with his intelligence quickened thru some technical knowledge of his own occupation, and with a bird's-eye view of other trades, more or less closely related to his own. Whether his aim is to become a highly skilled mechanic or a manager of less skilled labor he would appear to have many advantages over the boy of fifteen or sixteen who enters an industry as a raw apprentice.

While pupils of a junior high school must at entrance make a choice of academic, industrial, or commercial courses the choice is only a tentative one. The staff of the school is constantly on the alert to direct the pupils toward the courses best suited for them. This is no easy task because the inclination of the pupil and of his parents may be directly opposed to his natural ability. A boy's father may be quite set on making his son into a doctor of medicine or a Judge of the Supreme Court and nature may have given the boy a central nervous system better adapted for a bookkeeper or a plumber. The teachers also may make serious errors in their estimates of pupils' natural abilities. But on the whole a school of this type makes a real contribution toward the problem of giving young people a fair start on life's journey. If a boy who has chosen the academic course falls farther and farther behind in spite of hard study it is usually possible to convince him and his

parents that he had better try a business or industrial course and if a boy shows no skill in any kind of industrial life nothing will more easily turn him to some other line of study than his failures in the work shops.

It needs no argument to show that the assembling in one building of six hundred to one thousand pupils in a junior high school makes it easier to provide for the special subjects now taught in the upper grades of every good elementary school. Manual training and domestic science rooms can be used thruout the full school day. Gymnasium work and Assembly Hall exercises can be planned for with a minimum of waste. A laboratory for elementary science and special aids in the way of maps, pictures, and charts for teaching geography and history can be secured for the use of five hundred pupils where their use for only seventy-five pupils in a small school would be an extravagant waste of money.

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EDUCATIONAL PRINCIPLES OF MANUAL TRAINING

The first important step in the teaching of any subject is to make the pupil conscious of the fact that there is something to be learned in the subject. To accomplish this in manual training it is a good plan to let the pupils experiment as the first lesson in shop work and in this way find out that there is something they do not know but need to know in order to succeed in the use of tools. This can easily be done by giving each boy a piece of wood and a plane and telling him to plane it smooth and square. After half an hour of hard work he is ready to ask, "What is the matter?" He realizes that there is something to learn that will help, and is ready to pay close attention to an analysis of the plane and its use. The awareness of a difficulty to be overcome stimulates mental activity.

A complete analysis of all the tools would take considerable time and would soon be forgotten, as long trains of abstract thought are above the level of the thinking of

even high school pupils, therefore it is not desirable to give a detailed analysis of all at first. It has been found, however, that by giving a hurried description of all of the tools, the boys have a feeling of acquaintance with them, and so do not tend to leave their work to investigate the new tools. It is instinctive to pay attention to the new and strange while the familiar can be neglected. By making all of the tools fairly familiar they do not have the curiosity to explore them. With each new factor, whether it is the introduction of a new tool or a new process in the use of an old tool, the pupil should be given clear analytical explanation of how to use the tool, why it is used in that way, and the principles underlying the entire situation. The first general explanation of the tools and their uses is not detailed enough to meet the needs of the pupils. Moreover, ideas need something around which to group and the specific example serves as the tangible thing about which to group generalizations.

When some particular use of a tool appears in one boy's work that has not appeared before with that class, call the entire class together to get the benefit of the discussion and explanation. While it is not their individual problem, it is a real problem of a member of their class, and therefore is real to them, and they pay much closer attention and show much keener interest, than they would if they did not see the immediate application by their fellow classman. This is what John Dewey calls "identifying the fact with the self," making it fill a personal need.

The next question is: "What shall constitute the subject matter of the course?" A course in manual training usually begins with bench work in wood because the material and tools used are the easiest to master and can best be adapted to schoolroom conditions. Each succeeding step in the course should use, as much as possible, the skill and material developed by the preceding steps but in a new way, combined with some new factor which makes it a new situation. As soon as the place is reached where all of the new elements that the equipment make possible have been

mastered, a new line of work should be undertaken that will furnish these new situations. Wood turning and pattern making use the same material and similar tools as bench work in wood, but in an entirely new way and so give new situations and are suitable to follow it to furnish a progression of courses. In this way we can have a series of courses which are, separately and in combination, cumulative, connected, and progressive.

This article deals with the course in wood work. The boy should learn to use a tool to make a joint, because he wants to use that tool or joint in making some article. Instead of having a set of exercises for the boy to make, have pictures, blue prints, sketches, and the like, of a large number of articles that are either useful to the boy in his games, or to his mother at home, and allow the boy to look these over and see if there is anything he wants. Quite often there will not be, but he will suggest something else he wishes to make. If it can be constructed by the methods of construction he is learning at that time, he should be given paper and pencil to work out his ideas. The best method for the pupil to use in planning the article he wishes to construct, is for him to make a rough sketch of it first, and then an accurate drawing. The general idea is worked out and the important changes are made in the free hand sketch. The exact details are then worked out in the mechanical drawing.

There is educational value in learning to do the work, but this does not take the place of learning to plan the work, training to see the principles involved, and how to apply these principles to new problems. This point is brought out very clearly in the experiment with two groups of boys learning to hit a target under water, described in Dr. Judd's *Psychology of High School Subjects*. In the experiment the boys who had no instruction as to why there was an apparent displacement of a target under water, learned to hit it as readily as those to whom the refraction of the rays of light by the surface of the water was explained. These boys were, however, entirely confused

when the depth of the water was changed, and had to learn again how to hit the target, whereas the boys who had the theory of the situation rapidly adjusted themselves to the change and easily learned to hit the target. In the first case the theory was no substitute for practise, but in the second, it helped adapt the skill gained in the first case to the new situation and made a great saving of effort.

When a tool is put into a pupil's hand, the stimulus to do something is very great. The stimulus going from the tactual and visual centers to the motor center produces a general excitement of that center. There are no paths of motor response established to this stimulation. All sorts of motor activities result, a few that tend to produce the desired result and many that have no bearing on the desired result. By repeated trial, the responses that tend to produce the result will gradually be selected and the others eliminated. There is not only a selection of the proper muscular activities, but coordinations are established between these so that each plays just its proper part at the proper time and they work together to produce the desired end. This selection and refining of the muscular activities is a very active mental process. The proper paths of response are built up in this way until finally the given stimulus travels a definite path and produces the proper motor activity. When it reaches this stage it is no longer a mental process but is taken care of by the lower centers and is a habit. The given stimulus automatically calls out the response connected with it. This is the psychology of acquiring skill. The path between the stimulus and the resulting motor activity can only be established by selecting from the entire number of motor responses, the ones that produce the result. No amount of mental activity will take the place of selection by experience. You can tell a person how to swim and have him go thru the motions on the floor, but when he gets into the water he must learn the proper muscular adjustments. The explanation may aid in eliminating waste movements and adopting adjustments already made to the new condition, but in an

entirely new situation the path must be worked out by trial and elimination. Abstract reasoning can not establish these paths.

If in our selection of proper responses we stop to analyze why certain ones produce results, we will form generalizations that we would not if we simply said, "This seems to work, I will try it again." If two such operations are analyzed the points of similarity will be seen, which if each is worked thru with no careful analysis the similarity will usually be overlooked. If now, one situation is analyzed and skill required therein, and then another situation arises where conditions are slightly changed, it can be analyzed, the points of similarity noted and the skill, developed in the former case, applied to the latter. As soon as the modifications necessary to fit these to the new situation are mastered the entire situation is mastered. If, on the other hand, no similarity in the two situations is seen and an entirely new path must be established, it will take much longer. Skill is needed, but it is the power to render this skill available in innumerable cases that is of major importance.

It is the learning to see similar elements in different situations, and to see the fundamental principles involved that is desirable in any course of study. The person who has been led to see how two familiar conditions can be put together to make a new one, and to judge of the reasonableness of the new condition in terms of past experiences, will be more likely to see other conditions in new relations than one who has never been led to see the first. This power can be developed in manual training by an analysis of the operations and making clear the similarity of the elements of different situations. This is only accomplished by a union of theory and practise. The theory underlying situations that evolve skill can not be developed without the experience of developing that skill and analysis of the elements involved.

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VII

REVIEWS

The Carnegie Foundation for the Advancement of Teaching. Twelfth Annual Report of the President and of the Treasurer. New York: Published by the Foundation, 1918. 154 p.

The twelfth annual report of the President and the Treasurer of the Carnegie Foundation for the Advancement of Teaching contains the usual detailed account of the business of the year, a discussion along broad lines of insurance and annuities, in general, and the system adopted by the Foundation, in particular; current pension developments elsewhere; a statement of the activities of the Foundation in its Division of Educational Enquiry, and the annual De Mortuis.

The Trustees held in trust at the beginning of the fiscal year under review a total in general endowment of $14,164,000 and for the purposes of Enquiry $1,250,000. The total expenditures of the period covered by the report were $630,232, of which $547,358 went for retiring allowances and pensions. The total income for the same period was $625,862. Allowances were granted during the year to thirty-four persons on the basis of age, in 25 institutions on the associated list; to four others on the basis of disability; and twenty-three pensions to widows. Two retiring allowances were granted in institutions not on the associated list, and three pensions to widows. The total number of all allowances in force on June 30, 1917, was 480, representing a total grant of $739,360.

Important action taken by the executive committee was to appoint Dr. William C. Bagley, director of the School of Education of the University of Illinois, to make during the year 1917-18 a study of curriculums for the training of teachers; to rule that the employment of a retired professor in a salaried position by his own institution is not consistent

with the relations of the Foundation to the associated colleges; and to use in computation in retirement after service both as instructor and professor whichever service would give the larger allowance. In response to enquiries as to whether professors or officers who might enlist in the service of the United States in the event of war could expect that their pension rights would be safeguarded, the following resolution was adopted:

"That professors, associate professors, instructors, or other officers of accepted institutions eligible to benefits of the Carnegie Foundation, who may enlist in the land or naval forces of the state or nation, or who engage in industrial or other enterprises or activities recognized by the Foundation as contributory to the success or efficiency of such forces, shall have their pension privileges kept alive during the continuance of the present war."

The past year, says the report, has been a notable one in the history of the Foundation, in that it has marked the culmination of some twelve years of study and investigation. When the Foundation was established there was no thought of any form of pension system other than a teachers' pension paid entirely from the endowment, and a list of participating institutions was constituted in accordance with a close construction of the terms of gift. Unfortunately, when the Foundation began, there was no knowledge of the actuarial conditions involved in such a system, and it was inevitable that important changes should be made in the original plan, that sometimes, to use the words of the report, have brought criticism and alarm. The fundamental reason, it is well understood, why the system proposed at the beginning could not in the long run be carried out was the financial inability of the Foundation with the endowment in hand to support it, and the necessity early arose for this reason alone to restrict its benefits more closely than had been originally intended. It is not necessary, however, at this time to recall attention to this aspect of the matter, and the present report ignores it, and perhaps wisely, for the more immediate results of the

investigation that has been under way of the whole matter of pensions in their essence and application. The exhaustive study made in these intervening years, the report assures us, has shown clearly that no system of free pensions can be devised that will not in the end affect the teacher's pay; and it is clear that the opportunity to protect themselves should be open to the great body of teachers, and not to a selected minority. As the administration of the Foundation in the end saw it, there were two duties to be faced: to carry out fairly and to the best of their ability—the quotation is direct—the obligations assumed in the associated institutions; and to establish as quickly as possible a system of benefits open to the great body of teachers in the three English-speaking countries of North America, upon terms which should be permanent, economically sound, and within the reach of the teacher and of his college. What has actually in the end resulted is the definite commitment of the Foundation to the principles of the contributory pension, to a plan of insurance and annuities intended mutually to support each other, and to an organization open to the great body of college teachers of the continent. "In this day of world trial," says the report, "the Carnegie Foundation has sought to deal sincerely both with its obligations and its mistakes."

The conclusive report upon the proposed plan of insurance and annuities by the commission appointed by the trustees in 1916 is printed in full. In effect, the commission sets forth the fact that both insurance systems and pension systems have been devised to protect the participants against dependence; that insurance against risk of premature death for the benefit of dependents is needed during the active, productive period of life, lasting perhaps to the age of sixty-five; that the obligation to provide a certain measure of protection for those depending upon him is solely an obligation of the individual; and that certain actuarial principles must be observed in order that any plan offering insurance and annuities shall be sound. The commission further recommended the organization,

under the laws of the State of New York, of a Teachers Insurance and Annuity Association as fulfilling the conditions involved with respect to security, permanence, and economy of administration. The proposed charter of the new Association is appended. It provides for a self-perpetuating board of trustees of sixteen members, and a capital stock of $500,000. "The purpose of the corporation," it is stated, "is to provide insurance and annuities for teachers and other persons employed by colleges, by universities, or by institutions engaged primarily in educational or research work: to offer policies of a character best adapted to the needs of such persons on terms as advantageous to its policy-holders as shall be practicable; and to conduct its business without profit to the corporation or to its stockholders; and the corporation shall transact its business exclusively upon a non-mutual basis and shall issue only non-participating policies."

In connection with the discussion of the action of the trustees in this reorganization of their pension system, the report contains interesting statistical tables. It is shown that on April 1, 1917, there were in the colleges and universities on the associated list 6,593 teachers, including professors and instructors. In 1911 there were 5,097; between 1911 and 1917 there were, furthermore, 1929 withdrawals, but 3,425 additions. There are also tables of age distribution, and of the combined age and salary distribution of the teachers concerned.

The part of the report on pensions in general discusses at some length current pension developments. It is stated with conviction that the year under review marks a turning-point in the history of teachers' pensions, in that the hit-or-miss period is coming to an end in the fact of the acknowledged failure of many systems to meet their obligations. The realization that something stable, and in accord with the consciousness of the deserved protection of the teacher as a public servant, it is concluded, has become much more widely conceded and will ultimately result in the establishment of this whole matter upon a firm and logical basis—

a result, it may be maintained, which is in no small part due to the continued propaganda of enlightenment of the Foundation itself.

In the Division of Educational Enquiry the publications of the year were Bulletin 10 on Federal Aid in Education, already noticed in these pages, and the timely report on Engineering Education issued as Bulletin 11. The report announces the completion of the accumulation of material for the Foundation's study of legal education upon which it has been long engaged. Whether when the manuscript is ready it will be at once published will depend largely, it is stated, upon the international situation. To answer the question of immediate interest to many law schools as to the effect that the War may be expected to have upon student attendance a number of statistical tables are given showing conditions at hand during and after the civil war. It appears from them that in the North war conditions in themselves did not operate to produce to any serious extent reduction in law school attendance. The aggregate reduction during the first year of the war was a little over 25 per cent, and after two years more this loss was fully made up. The return of the soldiers to civil life, in 1865, was marked by an increase of more than 35 per cent over this level. The effect upon the Southern schools was naturally disastrous and long continued.

The report of the Carnegie Foundation, always a notable educational document, is this year of increased importance on account of the statement of the organization and proposed charter of the Teachers Insurance and Annuity Association of America, and the detailed description of the forms and significance of the policies to be issued by the Association. The Foundation, after an extended investigation of existing conditions, has finally arrived at a system which it is concluded will largely extend its usefulness, since it now offers to a multitude of teachers the opportunity, previously withheld, to participate in its benefits.

William H. Carpenter

Columbia University

Lectures on the Philosophy of Mathematics. By JAMES BYRNIE SHAW. The Open Court Publishing Company, Chicago, 1918. vi + 206 p.

A little less than a score of years ago a distinguished mathematician of Cambridge University, where for generations mathematics has been cultivated mainly for the sake of its applications to natural science or for the sake of its bearings on philosophy, said that in observing for some years the developments of mathematics in the United States he had gained the impression that American mathematicians were interested neither in the scientific applications nor in the philosophic bearings of their science but produced mathematics just for its own sake. The contrast of motives still exists in a measure but the measure has been diminishing. And the diminution has been due to a double change, a change in England and a change in America. In recent years not a little mathematical research by English mathematicians, including Cambridge men, has been carried on exclusively in the interest of pure mathematics. At the same time there have sprung up in the United States a considerable and increasing number of mathematicians having a primary or a strong secondary interest either in the applications or in the philosophy of their subject. Among the happy tokens of the latter change is the appearance of Professor Shaw's interesting volume.

The volume embodies seventeen lectures delivered by the author before a club of graduate students whose knowledge of mathematics did not extend beyond that acquired in an ordinary college course. It is the aim of the lectures to disclose the nature of mathematics viewed as an enterprise and to ascertain its presuppositions. The method employed is that of a rapid survey of the entire subject. In the interest of intelligibility, especially in view of the limited preparation of the audience, it might have been better to select a few available representative topics and to dwell on these somewhat more fully. It must be said, however, that the gains incident to such concentration would have been in some measure counterbalanced by a corresponding loss in general perspective.

The major foci of the discussion are five: the content of mathematics, its central principles, its reality, its methods, and its validity.

In the author's view the content of mathematics comprises eight distinct types corresponding to the fundamental notions of number, figure, arrangement, proposition, operation, hypernumber, process, and system, and giving rise, respectively, to as many distinct and multi-branched doctrines—arithmetic in its comprehensive sense, geometry, the theory of tactic, logistic, the calculus of operations, general algebra, transmutation theory, and the general theory of inference.

What Professor Shaw calls the "central principles" of the science—form, invariance, functionality, and ideality—are by many regarded as subject matter rather than as principles.

It is contended that the mentioned varieties of content are ultimately distinct, irreducible to a single type. A like thesis is maintained in respect of the so-called principles. The inference is drawn that neither a single variety of content nor a single principle can serve as the defining mark of mathematics. The question whether the science might be defined in terms of the content varieties taken together or in terms of the principles taken together or in terms of a combination of such varieties and principles is not so carefully considered. It is evident, however, that in the author's view the answer to the question is negative.

As to the "source of mathematical reality," sharp issue is taken with the view of such as Enriques who maintains that mathematics is ultimately derivable from the data of sense, being thus only a refinement of physics; with the Platonic view of such as Russell that the reality of mathematics is the reality of a world of universals; and with the contention of such as Kant that mathematics is a science of the structure of mind. Over against these a view is held that more nearly accords with the philosophy of Bergson: the view that mathematical entities are creatures

produced in course of the ever-continuing creative evolution of the human mind and that they have the sort of reality that belongs to such spiritual creations.

A valuable discussion of methods is followed by an illuminating final chapter on mathematical validity, which closes with some fine reflections respecting the kinship of mathematics with poetry and art.

Professor Shaw has earned the gratitude of his readers both by his very suggestive critique of mathematics and by his citation of the rapidly growing literature dealing with the philosophy of the subject.

CASSIUS J. KEYSER

COLUMBIA UNIVERSITY

Le Président Wilson. By DANIEL HALÉVY. Paris: Payot et Cie. Four francs fifty.

The possibilities of democratic government find new expression in the foreign policy of President Wilson as outlined in M. Halévy's book. To shorten a foreign conflict, to keep peace at home; these problems by a slow growth and the awakening of the American mind become a determination to make war, a determination which by its very deliberation is the strongest moral judgment of the German government. The Irish-American situation, the American policy of isolation, and the distinctly German problem are emphasized. Mr. Wilson is distinguished as the first statesman who has created a foreign policy without concealment or reserve. Halévy recognizes consistent idealism in the President's public profession and public diplomacy. This he considers America's essential contribution to the new birth of international faith. A League of Nations is necessarily included, but its source is the open mind and heart, which mark a new epoch in the history of institutions.

M. Halévy's volume is an immediate interpretation of Mr. Wilson to the people of France, and is of a quality to make one hope that the author may contribute further to a survey of American institutions and take a position with Tocqueville, Boutmy, and Lord Bryce.

No Anglo-Saxon or German literature rivals the critical analysis of Sainte-Beuve, Faguet, and Brunetière. M. Halévy's work possesses the traits which distinguish these critics. Under his interpretation President Wilson's thinking is essentially pragmatic, a grappling with the problems as they have happened to arise rather than the creation of issues. Mr. Wilson's conversion of the presidency into a far more positive institution than for half a century, he believes to have been an essential need, pointing to the possible outline of a new federal system.

The famous attack on the "lobby" of Congress of 1913 is significant in the freeing of American politics from the pressure of finance. A background of French experience brings appreciation for Mr. Wilson's determinations to allow each cabinet officer to select his own appointees. M. Halévy's approval of the President's domestic policy is unqualified. At a distance the President's failure to deal with the problem of civil service disappears in view of the tariff of 1913, the rural credits, the federal reserve, child labor, the Anderson law, and beyond all the appointment of Mr. Brandeis to the Supreme Court.

M. Halévy does not bestow upon President Wilson a distinguished position in literature. He considers him rather as a gifted amateur, clear, terse, vigorous, readable, but without the depth and richness of Burke or Bagehot. He does not suggest what may be his literary future in autobiography or treatment of Congressional government.

The reader receives a vivid impression of Mr. Wilson's personality as it has been forming in the mind of M. Halévy; inconsistent, more determined thru opposition, of a nature which finds intellectual companionship difficult, intensely idealistic yet intensely practical, complex and baffling as the bewildering maze of ideas, and dreams, and efforts of the continent of which he is the leader.

M. Halévy's effort to make intelligible to the French the President of America has brought to literature, to history, and to philosophy a significant contribution.

Alice M. Foote

South Hadley, Mass.

An Introduction to Political Philosophy. By H. P. Farrell. New York: Longmans, Green & Company. vii + 220 p. $1.25.

Mr. Farrell's work has striking merits. It is a distilled product and not a mere aggregate. The matter has been digested and its significance has been exprest clearly, tersely and succinctly. The treatise would serve its purpose admirably were it not that the content is too scant and needs to be supplemented. More than half the treatise is devoted to an analysis of the politics of Plato and Aristotle, while Hobbes, Locke and Rousseau occupy most of the remainder. References to the political philosophy of the Middle Ages are cursory and inadequate, and the chapter on the historical school—Montesquieu to Maine—is rather meagre. The list of "books suggested for further reading" is remarkable both for what it puts in and what it leaves out, and the general effect is that of scrappiness. The deficiencies are such as to suggest that the author had to work with limited bibliographical facilities,—a supposition borne out by the fact that he was formerly principal of a provincial college in India. As an introduction to political philosophy his work does not go far enough, but so far as it does go it is so good that it may be found more useful than treatises more complete in details.

Henry Jones Ford

Princeton University

It is a special pleasure to call attention to an interesting and well-informed study of Dr. Benjamin Rush, whose important services to American education are too little remembered. The book is entitled *Benjamin Rush and his services to American education*, by Professor Harry J. Goode, of Bluffton College. The story of a strong and original-minded man is well told and the far-sightedness of Dr. Rush is shown, not only in his part in the founding of Dickinson College, but in the many quotations from his writings. (Bluffton, Ohio. American Educator Company. 1918. 280 p. $1.60.)

In the *Field of philosophy*, Professor John A. Leighton of Ohio State University brings together an outline of his university lectures beginning the serious study of philosophy. It is a well-made book by an experienced and skilful teacher. (Columbus, Ohio. R. G. Adams & Company. 1918. 414 p.)

Mr. T. Sharper Knowlson undertakes a popular study of the creative mind in a stout volume entitled *Originality*. The book contains much that is very stimulating and thought-provoking. The subject with which it deals is naturally elusive, but the author has in mind the bringing forward of suggestions as to how originality may be increased and developed. The book is distinctly worth while. (Philadelphia. J. B. Lippincott Company. 1918. 304 p. $3.50.)

Mr. William H. Mallock is always interesting and invariably challenges popular beliefs and prepossessions. These characteristics run thruout the book entitled *The limits of pure democracy* which, altho somewhat too long and too diffuse, is a very searching analys is ofmany modern tendencies in thought and in action. A reading of this book will destroy a good many popular illusions. A curiously involved misunderstanding of one of Lincoln's simplest phrases is to be found on pages 6 and 7. (New York. E. P. Dutton & Company. 1918. 397 p.)

A textbook for students beginning the study of society, entitled *American social problems*, is the joint product of Dr. Henry R. Burch and Mr. S. Howard Patterson of the West Philadelphia High School for Boys. (New York. The Macmillan Company. 1918. 381 p. $1.20.)

A book for the use of teachers of American history which is intended to guide them in the direction of studies and in the preparation of lessons, is called *Supervised study in American history*, by Principal Mabel E. Simpson of the James Whitcomb Riley Grammar School, Rochester, New York. (New York. The Macmillan Company. 1918. 278 p. $1.20.)

A new textbook in American history for the use of students in grammar grades and junior high schools is *History of the American people*, by Charles A. Beard and William C. Bagley. Both authors are experienced and skilful teachers and in their treatment of their topic every attempt has been made to broaden the scope of study so as to include a knowledge of the ideals, achievements and problems of the American people, as well as a mere chronological skeleton of the chief happenings in the United States. The book will serve a useful purpose. (New York. The Macmillan Company. 1918. 674 p. $1.20.)

Another *History of the American people* by an experienced teacher, Professor Willis M. West, of the University of Minnesota, is particularly well illustrated and draws upon a body of material frequently overlooked in textbooks of this kind. (Boston. Allyn & Bacon. 1918. 729 p.)

There should be no dearth of books for the study of American history, since in addition to the two just named we have received *A School history of the United States*, by Professor Albert Bushnell Hart, of Harvard University. This, too, is a useful book with special emphasis on underlying tendencies and causes. (New York. American Book Company. 1918. 505 p.)

No better book of this kind was ever written than John Richard Green's *Short history of the English people*. It comes as close to being a model history as one could well imagine. A new edition, revised and enlarged with an epilogue, by Mrs. Green, has just come from the press in a single stout but handy volume. (New York. American Book Company. 1918. 1039 p. $2.00.)

In *Good English*, Messrs. Henry S. Canby and John B. Opdycke outline the essentials of good speech, good expression and good composition. (New York. The Macmillan Company. 1918. 387 p. $1.00.)

VIII

NOTES AND NEWS

Accredited higher institutions

Bulletin 17, Series of 1917, of the United States Bureau of Education, on Accredited Higher Institutions, is a compilation, by Samuel P. Capen, of the Bureau, of more than usual interest and importance. The letter of transmittal of the Commissioner of Education points out that various agencies in the United States maintain lists of collegiate institutions whose graduates are given by virtue of their degrees certain academic or professional privileges. Very few of these lists have received any wide publicity, and they vary greatly among themselves from the point of view of the criteria in accordance with which they are made. There is, in consequence, a great and growing uncertainty as to what is meant by a recognized, or approved, or accredited, college, as the terms are variously used; and a compilation like the present one of lists prepared by public and nonsectarian agencies will undoubtedly be useful to educational officers, and, what is of even greater value, it should contribute in the end in no small way toward the establishment of more definitely recognized standards.

The impression prevails, says the report, that there exists some authoritative classification of higher institutions of learning which has behind it the sanction of the government, but no such classification of collegiate institutions by any governmental agency exists. The Babcock classification of 1911 of universities and colleges with reference to bachelor's degrees was a step, and a well-adjudged one, in this direction, but it had a short, and, in a manner, an ill-fated life and an untimely death, and its proposed successor, which more deservedly was to be "a tentative grouping of universities and colleges with reference to bachelor's

degrees as related to work for higher degrees," never saw the light of actual publication.

Classifications of bachelor's degrees are necessary for various purposes, and in default of any central list of recognized authority the educational interests of various kinds which need them have been compelled, to an extent perhaps not generally recognized, to make their own. State departments of education, state universities, educational foundations, voluntary educational associations, and the universities that maintain graduate schools have all in this way elaborated in the course of time lists of institutions whose standards for the bestowal of baccalaureate degrees they were willing to approve.

These lists, the report goes on to show, represent four types of procedure in classification. State universities are generally under the necessity of defining the terms upon which students coming from other collegiate institutions, and as a rule from institutions in the same state, will be received, either as undergraduate students accepted on transfer, or as graduate students admitted to the graduate schools as candidates for advanced degrees.

The lists of institutions accredited by state departments of education are made up chiefly of universities, colleges, and normal schools whose graduates are eligible to receive certain kinds of teachers' certificates without further examination. Departments of education very generally accredit in this way only the institutions of their own states. The New York State Department of Education is a notable exception to this rule in that it conducts a careful inquiry into the standards of all institutions that apply, or whose graduates apply, for a rating.

The lists prepared by voluntary associations, like the Association of American Universities, the Carnegie Foundation for the Advancement of Teaching, and the North Central Asscoiation of Colleges and Secondary Schools, are not designed primarily to determine questions of credits or eligibility for official credentials, but to define educational standards in the particular areas concerned.

The fourth type of classification is exemplified in the restricted membership lists of certain organizations, like the Association of American Colleges, and the Association of Colleges and Secondary Schools of the Southern States. Admission to membership in these bodies is conditioned upon meeting the requirements prescribed for an institution as to the standard maintained of equipment, support and education.

The sources of information made use of in preparing these lists are various. State universities, from the nature of the case, possess more or less definite knowledge of the colleges in the home state, and where it is necessary to accredit institutions outside of it, the state universities of other states, or some trustworthy non-official body, is relied upon to furnish the required rating. Some of the state departments of education have developed their own processes for inspecting and rating the institutions of their own states. Where a wider territory is covered, the ratings of accrediting bodies in whose bailiwick the particular institutions are located are commonly used. Bodies like the Carnegie Foundation have based their lists upon a detailed study of the standards and resources of the institutions concerned in a nation-wide investigation. Some lists have less happily depended upon the rather elusive information contained in the reports of the institutions under scrutiny.

The lists at hand are, accordingly, in their origin based upon material variously derived and as the result of the application of a variety of standards. The report points out that in the present compilation the known criteria imposed by some of the classifying organizations constitute real tests of collegiate resources. The basis of classification reported by others, however, is vague, and in a few cases it is not impossible to assume that the lists themselves are due partly to guesswork. A besetting difficulty in the establishment of such ratings is the tendency that inherently exists for a local standardizing agency to include by courtesy in its lists of recognized institutions all

colleges in its district; and more important of all as a disturbing element in the integrity of any attempted classification is the fact that there is no practical consensus of opinion as to what really constitutes the standard American college.

The present bulletin contains, under separate heads, lists of institutions accredited by state universities and by state departments of education; of recognized or approved colleges prepared by voluntary organizations; and of accredited junior colleges. Its great immediate value is to call attention to the matter, and to show what is the present practise of the principal bodies that have attempted a standardization of college ratings.

So much space has been given to this résumé of the present Bulletin because of the real importance of the new conditions that it represents and that have made the compilation of the lists with which it is concerned an educational necessity. The significance of recognized college ratings to education does not, however, end here. All of the important lists have exerted an undoubted influence upon the weaker institutions to impel them to qualify, if possible, among the stronger by enforcing higher requirements of admission, of course instruction and of graduation, and to escape by setting up in this way better standards of education the very obvious discrimination of being less than the elect. The weaker institutions have not always liked this new publicity and some have not readily responded to it. There is, nevertheless, no good reason why the institutions concerned, strong or weak, should not accept the responsibility of reliable criticism. No institution is justified in attempting to do more than it can do well as determined by the actual conditions at hand, and it is certainly no slur upon a weak college that it is not a strong one if it makes no pretensions unwarranted by its educational equipment. There is every good reason, too, why the public, which is also concerned in the matter, should be made aware of unwarranted educational assumptions, both from the point of view of the individuals di-

rectly concerned and the general cause of public education.

The report emphasizes the fact that the colleges and universities listed in the present bulletin are not accredited or approved by the Bureau of Education, and that inclusion in it does not imply governmental recognition. The Bureau of Education, it is further stated in heavy-face type so that it will not possibly escape the reader, makes no attempt to rate or to standardize the collegiate institutions of the country. There is, however, inherently, no good reason whatsoever why it should not do so. The United States Bureau of Education, in any reasonable construction of its functions, is above all others the body that should be able to make in an entirely impartial manner a comprehensive list of the colleges of the country with their relative ratings in educational accomplishment. The Bureau's list of 1911 fell to the ground, not through the invalidity of the list itself, but rather from the unfriendly attitude of some of its critics. Another one, under present conditions of educational enlightenment, would surely have a better fate and there is no question of the influence for good that it would exert in the cause of a better educational understanding. To fortify such a future list absolutely against attack, it is only necessary to adopt by agreement with the representative educational bodies of the country a definition of a college that shall be definite, and to make out the list in full accordance with it.

Southern race questions

A pamphlet without a date has recently come to hand containing the minutes of the University Commission on Southern Race Questions, from the organization meeting in May, 1912, to the eighth meeting in August, 1917. The record of the work of the commission, which is composed of a representative from each of the eleven state universities in the South, is one of careful scrutiny of actual conditions, educational, social, and economic, and, in many directions, of suggested remedies. "The four great needs

in dealing with our southern race problems," said a representative of Louisiana State University at one of the early meetings, "are education, cooperation, publicity, and patience." The elevation of the negro, it is maintained, is chiefly a matter of education. Adequate provision should be made for training negro teachers and supervisors of schools, and in the elementary schools, which are not only fundamentally, but broadly the most important, the courses of study, in the main, should be vocational in character.

The minutes of the commission should have a wide publicity, in that as a whole they contain a consideration and discussion from an unusually important source of one of the greatest internal questions of the nation. The pamphlet prints in an appendix open letters from the commission to the college men of the South on lynching, education, and negro migration, and interesting reports of appointed committees on the civic status of the negro, and the economic conditions in which he is immediately concerned.

President Eliot on our educational defects

The United States Bureau of Education has printed for wide distribution as a Teacher's Leaflet President Eliot's outspoken and emphatic statement of "certain defects in American education and the remedies for them," originally written for the fourth commencement of Reed College and published in the Reed College Record.

"The war with Germany," says President Eliot, "has presented to the American people much new evidence concerning the grave defects in their own physical and mental condition and, therefore, presumably, in their training and education during at least two generations past. To study the remedies for the defects disclosed by our attempts to recruit quickly a great Army and a great Navy, and simultaneously to man our war industries with as large a number of competent mechanics and operatives, is the most urgent duty of all institutions and persons who possess any of the elements of educational leadership. Especially is it the duty of American universities, colleges, technical institutes,

school boards, and normal schools to study the changes in the elementary and secondary schools of the country needed in order to remedy in the rising generations the physical and mental defects from which their predecessors have suffered. That study should lead, first, to a clear understanding of those defects, and, second, to an intelligent prescription of the appropriate remedies. To apply the remedies is the duty of legislatures, school boards, and educational administrators all over the country."

The writer discusses in turn physical defects in school children and drafted men; bad diet; the lack of systematic physical training; infant mortality; tuberculosis; alcoholism; venereal diseases; and the mental defects of illiteracy; the lack of manual skill and training of the senses, and the general and habitual absence of accuracy of observation or statement in the American people. The remedies in each instance are plainly suggested. The pamphlet is not one easy to quote from or to summarize. It should be read by a wide public.

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